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ABSTRACT

Methodologies and recommendations for conducting economic impact studies that can be used for single-institution and multi-institution studies are presented. Much of the information and sample questionnaires are drawn from the Pennsylvania Higher Education Economic Impact study, which investigated the collective economic impact in Pennsylvania of its degree-granting colleges and universities on Pennsylvania's economy. Factual data were compiled measuring current annual contributions by colleges to the community, regional, and statewide economies for fiscal year 1979-1980. Information was based on 99 questionnaire responses from 2- and 4-year Pennsylvania colleges and from case studies from 17 institutions regarding the economic impacts on the colleges' communities. Background information on economic relationships of higher education is considered, including state and regional impacts, relationships with government, direct services to business, and returns on educational investment. To conduct an economic impact study, it is necessary to clearly define the scope in terms of the territorial boundaries of the economic area, the institutions or groups of institutions to be included, the time period, methodology for data collection, and questions to be addressed. An outline of research steps, including procedures for compiling and analyzing the data and suggested sources of data, is presented for single institution study or multiple institution study. Specific concerns include impacts of current expenditures for goods and services and impacts of saving, investing, borrowing, and asset ownership. Appended materials include questionnaires, a suggested study report outline, and a bibliography. (SW)

ED219006

HIGHER EDUCATION AND THE ECONOMY

METHODS AND APPROACHES FOR THE CONDUCT OF AN ECONOMIC IMPACT STUDY

Prepared by the
Pennsylvania Economy League, Inc.
State Division

For the
Pennsylvania State Board of Education
and the
Pennsylvania Higher Education Assistance Agency

in cooperation with the
Pennsylvania Association of Colleges and Universities

HE 015 242

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PREFACE

The materials included in this manual are designed to assist institutions of higher education and other interested parties by providing background information and a methodology for use in the conduct of economic impact studies. Methodologies and recommendations are presented that can be used both for single-institution studies and for multi-institution studies.

Much of this manual is drawn from the materials used and the experienced gained in the conduct of the Pennsylvania Higher Education Economic Impact Study. Numerous references are made to various aspects of that study in this publication.

No pretense is intended that the methods set forth represent the ultimate or even superior or original techniques for measuring the interactions of higher education institutions with their respective economic environments. Rather, it is hoped that the experimental trials and achievements experienced in the planning and execution of this survey may save exploratory time and efforts by others launching similar studies or updating prior studies.

The Pennsylvania Higher Education Economic Impact Study was conducted to determine the collective economic impact in Pennsylvania of its degree-granting colleges and universities, both public and private, on Pennsylvania's economy. Its major mission was to compile factual data measuring current annual contributions by colleges and universities to the community, regional and statewide economies in Pennsylvania for fiscal year 1979-80. Its broad objective was to compute the immediate net economic return for public and private dollars invested in higher education.

Information was compiled from existing published sources and by questionnairing the 125 two and four-year accredited degree-granting colleges and universities in the state.

The economic impacts in their respective communities of individual colleges and universities were also measured by a series of case studies conducted by volunteering institutions.

The study, its report titled "Higher Education and the Economy: A Survey of the Impacts on Pennsylvania's Economy of Its Colleges and Universities", was conducted by the State Division of the Pennsylvania Economy League, Inc., a non-profit, citizen-supported public affairs research agency. The study was commissioned by the Pennsylvania Higher Education Assistance Agency and the Pennsylvania State Board of Education, in cooperation with the Pennsylvania Association of Colleges and Universities.

Copies of the Report are available by contacting:

The Pennsylvania Association of
Colleges and Universities
800 North Third Street
Harrisburg, PA 17102

FOREWORD

A Need for Information

There traditionally have been endeavors to meet the economic needs of institutions of higher education through generous private support and in growing public tax support. These endeavors are sometimes handicapped by lack of tangible and reliable information on the measurable economic returns to be expected from the dollars invested in higher education.

To meet this need, there have been special studies by governing bodies and administrators of institutions of higher education to measure, in quantitative terms, the impact of individual institutions or groups of institutions on the economies of their respective communities, regions or states.

The availability of such comprehensive data can be of substantial value to college and university administrators, and to those who make decisions as to current and future support of higher education, whether these be private individuals, corporations, foundations or government officials. Such data should aid them in formulating and supporting policies having to do with the amounts, allocations and conditions of future support for higher education.

I. BACKGROUND — ECONOMIC RELATIONSHIPS OF HIGHER EDUCATION

The interaction of the economy and higher education has been in evidence since the early establishment of colleges and universities in the United States. In relatively recent years, there has been sharpened recognition and improved understanding of this interdependence.

The impacts are reciprocal in nature. Cyclical movements and technological changes in national and regional economies have a direct bearing upon the enrollments, curriculum demands and financial welfare of colleges and universities. In return, the institutions of higher education have a long-term impact by adding to the productive values of human resources. At the same time, they make significant short-term contributions to economic activity as operating enterprises and as providers of direct services to business and industry.

Clearly, the primary function of the college or university is in teaching and research; participating in the economic activity of the region or state is incidental to that prime function. Nevertheless, as a practical matter the presence of the institution represents an important economic as well as cultural asset to the community and state. These more immediate economic contributions are of substantial importance in maintaining workable relationships with the community and with public and private sources of financial support. Furthermore, this aspect of the economic role of the college or university is subject to reasonably accurate statistical measurement and relatively simplified presentation.

The results of economic impact studies often are surprising to the public and, indeed, to the academic community in terms of the prominent economic status of the college or university as an employer, consumer of goods and services, investor and property owner. Beyond the short and long-term role of the college or university in the economy is its function as a center for social and cultural advancement, which again defies quantitative evaluation.

The Transactions Flow

The immediate function of the institutions of higher education is to redirect the uses and locations of existing resources — whether these be family or student earnings and savings, corporate earnings, public funds or philanthropic assets — to supply the necessary elements of the instruction process. Resources expended to acquire manpower, materials, services and plant assets are introduced and re-circulated in the regional economy in the forms of wages, purchases of goods and services, contributions to government, acquisition of capital assets and accretions to net savings. The ultimate product of this channeling of pre-existing economic resources through the colleges and universities is an intangible "value added" representing additions to knowledge, creative capabilities, economic productivity and cultural enrichment of students.

Important and essential economic by-products which are ancillary to the instructional function are the commonly termed "auxiliary enterprises". They include facilities for housing and feeding students, health services and retail and service functions, all designed primarily to supply student instructional and personal needs. Included are hospitals, research laboratories, athletic activities, hotels, conference centers, research laboratories and the like.

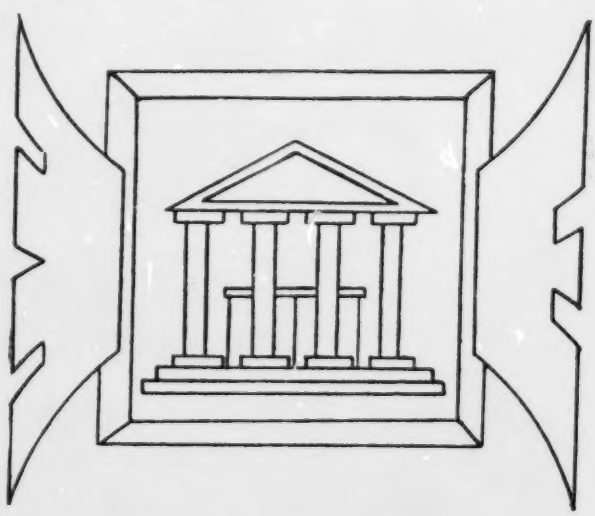
These operate in the economy in much the same manner as do private enterprises. They generate their own resources, in the form of income from sales of goods or services, a significant portion of which is imported into the community. These resources are converted to create jobs and payrolls and to purchase goods and services in the immediate area.

The nature and relative importance of in-flow and out-flow transactions, illustrating the typical, posture of the college or university in the regional, state or national economies, are illustrated by the diagram presented as Exhibit 1.

EXHIBIT I

Cash Flow System for Institutions of Higher Education

Revenues received by institutions of higher education are not absorbed by the institutions but, rather, are rechanneled back into the economy in the form of salaries and wages to employees, taxes and fees to government and payments of goods and services purchased from businesses.



State and Regional Impacts

The economic role of the college or university is enhanced as the geographic area within which that impact is to be measured is reduced.

Within the boundaries of a state, the higher education function serves not only to redirect the uses of applications of wealth and economic resources, but also to relocate their immediate application among regions. To the extent that funds flow into a state from other states and from the federal government for support of students and the institutions they attend, new economic resources are introduced into that state's economy which otherwise would not be present.

This inflow is offset by the transfer out of state of resources of students and their families, plus publicly subsidized loans and scholarships, expended elsewhere by residents who attend colleges or universities in other states. The institutions of higher education spend part of their resources for purchases of goods and commodities in other states. By the same token, they receive alumni contributions, corporate contributions and philanthropic gifts, grants and endowments from sources outside their state.

The complex interstate exchange of resources becomes even more complicated when the effort is made to measure the net economic impact of a college or university within a still smaller geographic region — its host community, or immediate "market area". Here, the net economic impact is enhanced, in that resources brought into the area by students and by state tax-supported subsidies and other forms of support for the institution, together with the net income imported into the area by auxiliary enterprises, can have a dramatic localized impact in jobs created, increased trade, enhanced property values, enlarged investments and credit bases and increased tax revenues. Whereas these economic benefits may tend to be neturalized when measured on a state wide basis, they can represent a sizeable contribution to the economic sustenance of a community. This is true particularly when an extraordinary portion of the local population is made up of college or university students, and when the normal economic base of the community is limited or depressed.

An important consideration in the measurement of the economic impacts of any enterprise, including a college or university, is the "multiplier effect" of the recycling or respending of its original expenditures within a given area. Each dollar of expenditure by the institution, its employees and its students for goods or services in the immediate area produces additional jobs, compensation for which is largely respent in the area, or in localized purchases of inventories and supplies by enterprises with which the university does business. The tracing of each dollar of expenditure through its complex train of transactions is difficult, and is made even more difficult when an attempt is made to measure the impacts of the flow within a restricted regional area. Nevertheless, the "multiplier effect" of the initial expenditures in the region attributable to the presence of a college or university is an essential factor to be considered in measuring economic impact.

In summary, it may be argued that, from a national perspective, colleges and universities serve largely to redirect earnings and savings through different channels than might otherwise occur, rather than to create tangible wealth. But, if their net impact is to be assessed within a limited geographic region — a state or community — that impact is enhanced by the effect of transferring resources out of one geographic area and into another. It can be assumed safely that if existing institutions of higher education were not present in a community or state, a significant portion of their income would be routed to other communities or states by residents seeking post-secondary education available elsewhere. Thus, from a practical standpoint, it is a justifiable assumption that the collection and disbursement of funds by institutions of higher education, separately or collectively, result in a net increment to the economy of the state and to the respective host communities.

Relationships with Government

Many prior studies attempting to measure the economic impact of individual colleges or universities upon their regional economies have taken into account the relationships between the institution and local, or sometimes state, governments. These studies have endeavored to evaluate the flow of funds from government to support services to the institution. Special attention has been given to the "negative" economic impact represented by the exemption of college or university-owned real property from local property and excise taxes.

Efforts have been made in some studies to measure the cost of services rendered by state or local governments to the faculty and other employees and students, against their tax or service fee contributions. The value of self-provided institutional services such as fire and police protection is also considered as an offset against tax exemptions.

Public funds, originating from federal, state and local levels of government flow directly into higher educational institutions and to their students in the form of operating subsidies and various forms of student aid. Certain direct services, primarily of a protective or utility nature, are provided largely by local governments to colleges or universities within their jurisdictions at a cost which would not be incurred were the institution not present.

Although the instructional properties of higher education institutions are ordinarily exempt from local real estate taxes, the institutions often pay taxes upon properties not qualified for exemption because they are not used exclusively for educational purposes. These include properties used by their auxiliary enterprises or activities. Somewhat more difficult to measure but nevertheless significant are the enhancements in property values, and consequent property and other tax receipts, attributable to the presence of the college or university.

By their presence, the auxiliary enterprises as employers generate property, income and excise tax revenues paid directly or through the enterprise as a collector to state and local governments and to the federal government. In the reverse direction, federal, state and local governments provide services not only to the college or university, but also to its auxiliary enterprises and their employees.

These interrelationships of government and higher education institutions are an acknowledged factor in evaluating the economic impact of the institution upon its community, state and nation. However, because of the focus of this study is upon economic, rather than general community impacts, it is presumed that governmental relationships are of incidental interest and warrant secondary treatment. One element of this relationship is accorded special importance — that being the general subsidization of higher education by governments at all levels,

through direct support of the institution, aids to students and restricted or unrestricted special purpose research or other grants. This factor should be discussed as an element of income available to colleges and universities.

Direct Services to Business

In addition to their roles as operating enterprises and instruction centers, many colleges or universities provide direct services and facilities to business designed to improve the quality of products and the efficiency with which they are provided. Included are talents and facilities for technical and administrative research, expert consultation related to products and production, manpower training skills and facilities, facilities and staff for seminars and conferences, and the services of skilled personnel on corporate boards and advisory committees. These services are available to manufacturing enterprises, financial institutions, agriculture and other categories of productive enterprise.

University and college laboratories and the technical expertise of their faculties and students are responsible for outstanding innovations in product development and production methods. There is a continuing exchange of skilled personnel between productive enterprises and colleges and universities as well as a flow of contract-related funds and contractual research services. Most industrial developers agree that the presence of advanced technical training and research facilities provided by colleges and universities is a major plus factor in attracting industries and jobs to a state or to a region, with the attendant benefits of increased employment and production.

In addition to providing candidates for recruitment by business and industry to meet their manpower needs, the colleges and universities provide a valuable resource for specialized training or retraining of the workforce, often especially designed to meet the needs of the community, the region or the state.

Like the "human investment" concept of economic contribution by higher education, the direct and unique services to satisfy the needs of a growing regional or state economy are difficult to measure in quantitative terms.

Returns on Educational Investment

Not as readily measured in quantifiable terms but undoubtedly of greater ultimate economic value are the contributions of the colleges and universities offered in their primary function as teaching enterprises.

Although they are beyond the scope of this inquiry, some general observations concerning the human investment function and the broader societal contributions of higher education, are appropriate.

Economic researchers attempting to measure the rate of return on higher education investment have developed generally a three-stage process. First, the total costs of obtaining an education are determined. Second, an attempt is made to differentiate the earnings over a lifetime between persons who are college-educated and those without a college education. Third, present values for those future earnings are computed to show their worth upon completion of the educational process. This latter step is necessary to effect valid comparisons between the two categories studied.

The process requires making certain assumptions, including but not limited to future interest rates, economic growth, labor market participation and expected productive work years.

Criticism of the process centers around the assumption made together with the noneconomic benefits of higher education that are devalued or ignored altogether.

Costs of Higher Education

In determining the rate of return on human capital investment, costs of the investment must be ascertained. These costs fall necessarily on two segments — the person receiving the education and the society from which the person hails and to which the individual (hopefully) returns.

Personal. Just as there are two categories of general costs, there are likewise two classes of personal costs: direct expenses and foregone earnings.

Direct expenses are the most easily calculated. They consist of such items as (1) tuition and activity fees; (2) room and board; (3) textbooks and other learning-related supplies and fees; (4) transportation; and (5) out-of-pocket or miscellaneous fees.

Foregone earnings are an obvious expense to the student (and to society). This category of cost is affected by several variables including state of the economy (and hence the availability of jobs), marketable skills gained through high school graduation and/or other work experiences, and the motivation of the student to seek employment actively.

Societal. There are four major costs incurred by society in financing higher education.

First, there are the direct and indirect expenditures made by governments (national, state and local). These would include grants or subsidies made to education institutions and to students, as well as the services provided to such recipients.

Second, society, for all intents and purposes, loses the productive contribution of the student during his or her college term. This is offset somewhat to the degree that the student is employed part-time during the school year, semester breaks or summers.

Third, society in general absorbs the tax losses incurred due both to the non-productivity of the student and to the tax-free status of the institution.

Fourth, society sacrifices the use elsewhere of the significant grants and gifts bestowed by the private sector. Endowments, scholarships or direct support for specialized activcities are examples of such support.

Benefits of Higher Education.

Computing benefits of higher education with any degree of accuracy is an inexact science and has been the subject of much controversy. This is especially so when economic benefit computation is attempted. There are those who feel such measurement is misleading given the expected nonpecuniary benefits that higher education is thought to provide as a matter of course.

Nonetheless, there are obvious benefits that inure both to society at large and to individuals.

Personal. In the personal realm, there are both tangible and non-tangible benefits that an individual may expect as a result of pursuing a higher education.

Tangibly, enhanced employability prospects, together with expected increased earnings over a working career are the likely benefits most students anticipate in deciding to pursue a college education. The anticipated earnings differential is an approximate measure of the individual's enhanced productivity and economic "value added".

Census data, as shown in Exhibit 2, tend to show a positive correlation between year of education received and median personal income.

EXHIBIT 2

Education of Household Head	Median Income 1970	1979
Less than 8 years	$ 4,301	$ 7,222
8 years	6,013	9,739
1-3 years high school	8,113	12,346
4 years high school	10,063	18,310
1-3 years college	11,280	20,366
4 years or more college	14,440	26,614

Source: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-60.

In fact, the differential (in median personal income) between four years high school and four years or more college increased slightly during the decade.

This is in contrast to suggestions by some researchers that the earnings differential between college graduates and non-graduates may be narrowing (especially during the sluggish national economy of the mid to late 1970's). There are many others who feel such a narrowing was a temporary phenomenon. The latter group maintains that future long term economic growth will create a multitude of jobs which in turn will generate demand for college-trained workers.

Even in periods of economic downturn, college-trained workers are usually unemployed less often and for shorter durations than non-graduates.

On an intangible basis, higher education pays even greater benefits although these are admittedly more difficult if not impossible to measure. For the most part there is agreement that a college graduate, having completed successfully a rigorous academic discipline, will (or should) have a broadened intellectual capacity as a result. Also, in addition to having experienced a general cultural enlightenment, a college graduate is expected to possess greater tolerance and/or acceptance of divergent viewpoints.

Perhaps the most noteworthy of the so-called intangible benefits is the enhanced leadership, inventive and proprietary capabilities of college graduates. Although many of the American entreprenurial and inventive giants of the past did not possess a formal higher education, it is more than likely that future technological and industrial demands, together with the satellite and attendant spinoffs, will require college-trained individuals to meet these needs.

Societal. All of the personal benefits enumerated in the preceding section obviously are available to all of society on a collective basis.

Perhaps the greatest benefit that accrues to society for its investment in higher education is the likely increase in productivity that is expected to occur over an individual's working career. That expectation is pervasive and accepted almost without exception and is reflected in broad public support of higher education. This support is manifested through direct public appropriations of tax revenues at all levels of government and through continuing private contributions.

Of course, increased productivity implies increased earnings which in turn translates into increased taxes levied by all governments on earnings, on consumption expenditures and on property ownership. With the variety of taxation systems in effect, it is almost a certainty that increased taxes paid over a lifetime will repay all or a significant part of society's investment.

Another important benefit to society is the lessened demand by the college-educated for "welfare-type" transfer payments. All things considered, college graduates are less likely to be drawing unemployment compensation benefits or other types of supplemental income assistance payments. Because college graduates occupy less hazardous occupations for the most part, workmen's compensation claims can also be expected to be less than for the non-college educated.

All the benefits to society are not solely economic. College graduates provide a pool of skilled and talented individuals for a variety of community tasks. For example, they perform a disproportionate part of all voluntary charitable work. In addition, college graduates are better informed on issues, more likely to register and vote and to participate actively in governmental affairs, public service and politics. Because of their training and experiences they are less likely to be influenced by prejudicial stereotypes and more likely to attempt rational and nonviolent solutions to individual and societal problems.

In summary, a largely rhetorical question is raised, i.e., does the value added to society, to the economy and to an individual by providing for and participating in higher education, exceed the costs incurred by each?

A quote may best answer this question. "First, the monetary returns from higher education alone are probably sufficient to offset all the costs. Second, the nonmonetary returns are several times as valuable as the monetary returns. And third, the total returns from higher education in all its aspects exceed the cost by several times. In short, the cumulative evidence leaves no doubt that American higher education is well worth what it costs."[1]

[1]Howard R. Bowen, *Investment in Learning: The Individual and Social Value of Higher Education*. San Francisco: Jossey-Bass, 1978.

II. STUDY PREPARATION

Determining Scope

An initial and essential step in the conduct of an economic impact study is to clearly define the scope. There should be agrement on the areas to be investigated as well as on areas to be omitted. Some points to be addressed in defining the scope should include:

Territorial

Establish boundaries of the economic area (state, regional, local). It is recommended that regional or local boundaries coincide with county boundaries.

Institutional (For multi-institutional studies)

Determine the institutions or groups of institutions to be included.

Time Period

Determine the time period for the study to cover — for short-term detailed measures of economic impacts, one calendar or fiscal year as recent as data permits, for trends of general measures on long-term impact projections, five to 20 years.

Limitations of Subjects

Once the overall scope has been defined some specific considerations of the study should be addressed. These considerations should be guided by the desire to achieve the optimum results given the targeted audience and expected use of the study and the time, money, personnel and equipment (i.e., data processing) allotted.

Several of the economic relationships that can be considered attributable to higher education involve subjects that are difficult to quantify with any degree of reliability or involve items that are part of complex relationships that are not easily separable. Some examples would include impacts of higher earning power by those having post-secondary training and also the impacts individuals connected with higher education have with government.

Only marginial attention was given to each of these two subjects in the Pennsylvania study. The enhanced earning power impact usually involves a calculation of a present value of lifetime earnings. Given the recent fluctuations in interest rates the potential range for the present value of earnings would prevent any meaningful analysis. In addition, it was felt that numerous other studies had addressed this subject already. The relationship between individuals and government usually involves the calculation of total taxes paid by individuals and per capita revenues received by one level of government from another. However, these same individuals also receive services provided by these governments. It was felt that any marginal impact that existed as a result of these relationships was only incidental to institutions of higher education.

Methodology for Data Collection

Economic impact studies usually include a reliance on published data in combination with original data not otherwise available. Typically, essential data on institutional and personal spending within the designated service area must be developed from original sources. Probably the most common tool used to collect such information is the questionnaire. (Additional discussion on the use of questionnaires and samples of the questionnaires used in the Pennsylvania study are presented elsewhere in this report.) Information relating to the specific design, the sample size and the interpretation of data collected from questionnaires should be obtained from those with expertise in that subject or from published sources.

The use of published data as source material is likely to present situations where information is available in a form that is not exactly as desired. It is therefore necessary to make various adjustments that allow for differences in the time periods, area boundaries, method of calculation, etc., of the collected data. As a general precaution, the data sources should be reviewed thoroughly before any data are collected to minimize the effects of the adjustments required and to identify areas where original data must be compiled.

Major Questions to be Addressed

Once the scope has been established the major questions to be answered by the research should be identified. These should be developed in conjunction with the survey of data sources (discussed in the next section) to determine the potential availability, accuracy and difficulty associated with the ability to answer each question.

Some questions meriting consideration are presented below. Most of these questions would be valid for both single and multi-institutional studies.

1. Considered as an operating service enterprise(s) what does the institution(s) of higher education contribute directly to the economic sustenance of its(their) community(ies) and to the state in terms of payrolls generated ("quality" as well as "quantity"), consumption of goods and services, capital assets, tax contributions and other direct inputs in its(their) capacities as:
   a. Instruction centers, and as
   b. Proprietors of ancillary activities and teaching facilities (athletics, hosppitals, etc.)?
2. What are the measurable multiplier effects in terms of incidental contribution to the economy by producers and vendors of services and goods, construction activities and other enterprises and functions serving the needs of the higher education institution(s)?
3. As a center for scientifice and industrial-agricultural research and development, to what extent does the higher educational institution(s) enhance the attractiveness of the region and state for economic growth and development?
4. To what extent does the institution(s) of higher education attract funds from out-of-region or out-of-state for investment or expenditure within the region or state?
5. What are the long-term measurable and immeasurable increments in productive capability and earning power of those benefitting directly from higher education, and what portion of that economic increment might be expected to be retained within the region or the state's boundaries?
6. What are the measurable rates and amounts of investment in higher education generated from tuitions, fees and endowments or subsidies by private and public sources, and what are the net estimates of potential economic return per dollar of funds so invested?

Secondary Questions

1. How do the higher educational products in terms of career preparation correspond with forseen needs and opportunities?
2.* To what extent are the "products" of the region or the state's higher education process "exported" (location of graduates outside region or state)? To what extent are products of other regions or states "imported" (location in region or state of graduates of institutions of other regions or states)?
3. How does the region or state compare with other economically similar regions or states in comparable measures of higher education activity (e.g., enrollments, revenues and expenditures, degrees granted)?
4.* What is the "balance of trade" between the region or state and other regions or states in terms of personal, corporate and public funds (including scholarships and loans) "exported" to purchase higher education from out-of-region or out-of-state institutions, and "imported" to buy from in-state or regional institutions?
5. To what extent are business enterprises provided direct services by the higher education institution(s) including research facilities and services, in-service training for employees, personnel recruitment and placement services, conference facilities, management and technical consultation and information exchanges, library facilities, joint research projects, etc.?
6.* What are the measurable long-range foreseeable revenue requirements and expenditure estimates of higher education in the region or state, and what are the consequent demands upon and contributions to the region or state's economy?
7. What are the evident (immeasurable) benefits other than exclusively economic to the region or state — i.e., social, cultural, international prestige and security, quality of leadership — contributed by its institutions of higher education?
8.* What inter-regional effects are attributable to higher education in the region or state in shifting resources and economic activity from one region (student residences) to others (institution location) and meeting special needs of residence communities for economic sustenance?
9. What are the negative economic impacts or costs of higher education (e.g., withholding of students from labor force, student loan defaults, tax exemptions)?

* Would be applicable primarily to multi-institutional studies.

III. STUDY METHODOLOGY — SINGLE INSTITUTION

Introduction

Conducting an economic impact study can be a costly and time consuming endeavor. Much of the time, and therefore cost, is required to identify those factors which have an impact on the economy and to determine the interrelationships among them. Additional effort is also required to collect this information, analyze it, and report it in some logical format that includes accurate and defensible findings.

The purpose of this section is to outline the recommended research methodology, identify the relevant subjects to be investigated and the procedures to be used for compiling and analyzing data on those subjects and to suggest sources for obtaining the data.

The recommendations as to the methodology, subjects, procedures and data sources to be used are based on comprehensive review of previously conducted studies and other pertinent literature combined with insights gained from discussions with knowledgeable persons in the fields of higher education, accounting and economics. By following these recommendations it is expected that a great portion of the time and effort usually required to plan and conduct an economic impact study can be reduced.

Please remember that these are only recommendations based on the Pennsylvania study. It is recognized that there may be some areas where a more detailed or comprehensive investigation may be desired or some areas where an approach different from that suggested will be deemed more appropriate.

The following is a proposed outline of research steps or subjects, including procedures for compiling and analyzing the data and suggested sources of data. A suggested report outline is presented as Appendix A.

The Community

The purpose of this section is to provide general information on the institution's environment and its local community context (defined as being that area within which it conducts business or to which it provides public services, social and cultural events, etc.). In this report, this local community concept is referred to as the "service area". It should not be necessary to conduct much analysis of the information collected for this section; it will be largely descriptive. The analysis will be done in the following sections of the report.

In this section, you should identify the service area of your institution. This should include a description of the service area boundries, a listing of significant governmental units of population centers encompassed and a brief statement on the dominant economic activity of all the community. To facilitate later analyses, the service area boundaries should be the outer perimeter of the county or counties containing the service area.

In addition, the socio-economic characteristics of the service area should be displayed. These would include data on population (number, density, age distribution, and number of high school graduates), mercantile, service and manufacturing establishments (number and value of sales), employment (number employed and percent unemployed), personal income (total annual and average per capita) and banking and financial institutions in the area (number and total deposits). It is recommended that this information be compiled and reported for several years (spanning a 10 to 15 year period) so that trends can be established, analyzed and commented on.

The Institution

In this section, provide a narrative text of general information on the institution and related statistical data. Subjects covered should include a brief historical statement, statements on the present organization, size, offerings, areas of emphasis, number of graduates and unusual relationships developed both with the community and the state. In addition, the future plans and goals of the institution should be discussed. Most if not all of this information should be contained in the most recent President's Report or some other similar document.

Briefly introduce the various roles assumed by the institution as an employer, a consumer of goods and services, an investor, borrower and owner of property, a provider of research and public services, as well as an educator. The presentation of this information on the various roles of the institution exposes the institution to the reader in ways that may not previously have been considered. In addition, it also provides much of the basic data necessary to calculate the impacts of the institution on the community and the state.

Included here should be breakdowns of enrollment data by number of full and part-time students, by level of students (graduate/undergraduate), by programs, and by original residence (from within the institutional service area, from within the state, from outside of the state). It is recommended that the data be collected and presented for several years (spanning a 10 to 15 year period) so that trends can be established, analyzed and commented on.

General Financial Characteristics

In this section information should be presented on the major revenue sources and expenditure classifications, capital expenditures, indebtedness, investment and endowment values, and plant and equipment values. The information should be presented for a single fiscal year. It is also recommended that prior years' information be obtained so that trends can be developed. Analyses could include statements on changes in the relative reliance on major income sources, comparisons of instructional to overall expenditures, etc. Following is a listing of the items that should be included in this section:

a. Total revenues by major source
b. Total expenditures by major classifications
c. End of year book value of land, buildings and equipment
d. End of year market value of cash and investments
e. End of year outstanding indebtedness

Auxiliary Enterprises and Business Services

This section should provide a listing of the auxiliary enterprises of the institution. The types, locations, functions and economic relationships should be briefly described. Information relating to the annual sales or other revenues, number of employees, payrolls, expenditures for goods and services and value of plant and equipment for these auxiliary enterprises should also be included.

Research and Public Service Activities

In this section, information should be presented on research and public service activities conducted by the institution. Included should be statements regarding the institutional policies influencing the development and furthering of these activities. Descriptions of the various types of research and public services activities should be provided. The relationships of these activities with business, government or the community in general should be identified. The benefits and beneficiaries of these activities should also be identified and described. Economic information such as revenues received and expenditures made for these purposes, faculty and staff time devoted and facilities used or made available should be listed. Some specific examples for consideration, in addition to research activities, would include consultative and advisory services, extension and special education, use of meeting, conference and recreational facilities, training programs and seminars.

Identifying Economic Impacts

Description and measurement of the institution's total impact on the community (service area) can be approached from the standpoint of its several roles occupied as an operating enterprise. The institution's influences upon the local economy in each of these roles includes the activities of the institution, its faculty, staff, students and visitors.

Among the basic roles of the institution which warrant separate attention (and cannot always be added or consolidated in their quantitative measures) are:

The Role of Employer
The Role of Consumer
The Role of Investor
The Role of Property Owner
The Role of Borrower

The Institution as an Employer

One of the major impacts of the institution on the economy is as an employer. Employment data should be presented to show the total full-time employment for faculty, administrative and non-professional staff for a single fiscal year. In addition, the number and use of part-time employees should be listed and discussed. The average monthly payroll and average cost of employer-paid cash benefits should also be included. Consideration should be given to comparing institutional payroll and employment data to employment and payroll data for the local service area. Again, it may be useful to present data for several years to obtain trends.

An additional impact on the service area is the creation of new employment due to the increased local business volume generated by the increased income and spending of the institution, its employees and its students and visitors.

The Institution as a Consumer

The calculation of the economic impact of the institution as a consumer involves the interrelated impacts of several factors. These factors include purchases made directly by the institution, purchases made by faculty, staff and students, and expenditures made by visitors to the institution. The total amount of these purchases generates increased income to both local and non-local businesses and henceforth to individuals in the form of wages, interest, rent and profit. These in turn generate additional purchases.

This process of increased income and purchases as a secondary result of initial institution-generated spending is known as the multiplier effect. The extent of purchases of goods and services that the institution, faculty, students and visitors make from local businesses and the extent of additional local spending made by the local recipients of those purchases are combined to calculate the economic impact on the service area.

The Institution as an Investor, Borrower, Property Owner

The institution makes a significant contribution to the local economy in the "business" it generates for banks and savings institutions as a depositer and short-term borrower or, less common, as a long-term borrower. In addition, faculty, staff and students add to the deposits and loans of area banks.

Closely related is the role of the institution and of its employees (and sometimes students) as owners of property.

The institution's property holdings include administrative and academic facilities, supportive and auxiliary enterprise, and sometimes commercial or private residential land and improvements. Faculty, staff and students own (or rent) primarily residential properties in the community. The combined impact on the community includes the total (or net) incremental values of the community's total assets, increased mortgage loan business, and increased building maintenance goods and services and utility service sales.

Impacts of Current Expenditures for Goods and Services

Institutional Expenditures

For this item the total of expenditures for non-capital goods and services purchased from businesses during the selected fiscal year must be determined. The intended purpose of any expenditure (instruction, research, auxiliary enterprise, etc.) is not a relevant consideration for this calculation. It is most important that the locally-spent portions of the expenditures be derived as accurately as possible as they are needed to determine the impact on the local economy. The institutional revenues and expenditures questionnaire used in the Pennsylvania study provides a procedure for computing this information (Appendix C).

It is recommended that the logic of procedure used in that questionnaire be followed. This will permit the identification and calculation of the various items contributing to the economic impacts of the institution. Of particular importance is the adherence to the methodology for developing the various non-capital goods and services expenditure objects (Item III G), as these are required to calculate the expenditure multiplier. Note that the questionnaire is structured so that non-capital goods and services purchased can be derived as a remainder of total expenditures for the fiscal year in question.

Methods used in other studies for determining the local portion of these purchases varied from an actual examination of each institutional invoice for a given period to an educated guess with no explanation at all. It is doubtful that the added accurracy attained through an item-by-item examination justifies the time required to do it. By following the format of the institutional revenues and expenditures questionnaire, a significant amount of the local

portion of the total dollar value of these expenditures should be identified. To determine the local portion of the remaining expenditures the use of a sampling of invoices in combination with insights provided by Business Office personnel should prove adequate.

Faculty and Staff Expenditures for Goods and Services

Purchases made by faculty and staff members comprise another important factor in estimating the economic contribution of the institution to the local community. In other studies the most widely-used method to obtain information of personal spending patterns has been the questionnaire. It is suggested that this procedure be used unless there has been a recent similar study or if there exists another source of the same information which would be equally comprehensive and accurate. Sample questionnaires are presented beginning on page 15.

The suggested questionnaire form is designed to require minimum time on the part of the respondent by requesting only the most pertinent information. It is recognized that some questions request private personal information and care was taken to structure those questions so as to assure the anonymity of the respondent. The questionnaires may be altered, expanded or rearranged to meet special needs perceived by each case study institution.

A discussion of the rationale for using questionnaires and of suggested techniques to be used in the sampling, distribution and tabulation of the results is presented beginning on page 13.

The estimation of local expenditures made by faculty and staff for goods and services is based on the responses received on the faculty/staff questionnaire and on payroll records. The suggested methodology to be used for determining local expenditures first calls for full-time employees to be separated into two groups — those residing within the service area and those residing outside of it.

Local expenditures for each group are calculated, using the data from the questionnaire, by annualizing the local portion of all non-mortgage expenditures and adding to it the local portion of major purchase expenditures. This amount would be multiplied by the ratio of the individual's pay received from the institution to the total income of the household. These amounts are then related to the salary and wage brackets on the questionnaire to develop spending profiles at the different income levels.

The total local expenditure would be the sum of the products resulting from the multiplication of the local expenditure amount developed for each salary and wage bracket by the number of employes in each of the two residence groups in that bracket.

The spending patterns can be compared with data presented in the U.S. Bureau of Labor Statistics report. THREE STANDARDS OF LIVING FOR AN URBAN FAMILY OF FOUR PERSONS or ECONOMIC REPORT OF THE PRESIDENT (most current or applicable year) to check for serious deviations and to develop additional supporting data.

Student Expenditures for Goods and Services

Student spending also impacts the local economy. It is suggested that questionnaires also be used for the estimation of this impact (see page 15).

Estimation of student spending impacts should be accomplished by annualizing the local portion of expenditures and adding to it the local portion of major purchase expenditures for full-time students. This annualized amount should be calculated separately for students who live in college-provided housing and eat in dining halls and for all other full-time students. These amounts should be extended by the total number of students in each of these categories. Consideration should also be given to developing sub-groups for these two categories comprised of graduate and undergraduate students if differences in spending patterns can be determined from the responses on the questionnaires.

In addition to personal student spending, the spending of student organizations should be analyzed and the local portions of these expenditures should be determined. This amount would be considered as part of the total impact of student expenditures.

Visitor Expenditures for Goods and Services

Spending by those visiting the institution for any purpose impacts on the economy. Unless some previous study of the number of visitors exists there probably will not be much data readily available on this subject. The estimation of the total number of visitors and the average local expenditure should be approached with consideration given to the following factors:

a. There are four general categories of visitors: those present for business purposes; those present for recreational or cultural purposes; those present for educational purposes (this would include part-time students); and those present for personal reasons (parents, prospective students, friends, etc.).

b. The category of visitor dictates to some extent the frequency, duration and distance traveled.

c. Some relatively good estimates of the number of visitors in some of the above categories could probably be made by those receiving or in charge of programs receiving those visitors.

d. An approximation of typical spending profiles for each category of visitor can be developed using data obtained on visitor expenditures from the student questionnaire and intuitive reasoning, given some knowledge of the frequency, duration and distance traveled for each category of visitor.

If enough data are not available to make any reliable statements on either the number of visitors or the amount of visitor expenditures, reference should at least be made concerning types of visitors and the fact that there can be expected to be some impact on the local economy as a result of their expenditures, even if these cannot be quantified.

Aggregate Expenditure for Goods and Services

The total impact of institution-related expenditures on local business is determined by adding the local portion of total expenditures made by the institution, faculty and staff members, students and visitors and applying a multiplier to that total. The multiplier is used to account for the effect of the respending of these expenditures by the recipients. A discussion on the development of the multiplier to be used is presented beginning on page 17.

Impacts of Saving, Investing, Borrowing and Asset Ownership

Saving Impacts

The deposits made locally by the institution, its faculty, staff and students, are available to the local lending institutions for loans and investments. This amount available for loans and investments is the total of all of these local deposits less the legal reserve requirement imposed on the lending institutions. Note that this is the amount of loans that could be made by the lending institution which is not necessarily the amount of loans that are made.

Instititional savings impacts. The savings and demand deposits held in institutional accounts should be identified and an average monthly balance calculated. In addition, the portion of those deposits that are held at lending institutions with facilities located within the service area should be determined. That amount annualized, multiplied by one minus the minimum legal reserve requirement imposed on the lending institutions would result in the potential amount of credit base expansion.

The legal reserve requirement is the proportion of deposits the lending institutions must withhold from lending. The federal government and the states each impose reserve requirements. Their rates are not the same. In addition, the rates imposed on banks may be different from than the rates imposed on savings and loans, and the rates imposed on demand deposits are different from the rates imposed on time deposits. Finally, interest bearing checking accounts may be treated differently in terms of required reserves by the state and the federal government. It is recommended that state banking authorities be contacted to ascertain an approximated weighted average reserve ratio based on total deposit information for banks and savings and loans in the region or state, given the current state and federal regulations.

Faculty and staff banking activity. The total value of savings and checking accounts of full-time faculty and staff on deposit at banks and other lending institutions can be estimated using data obtained from questionnaires. The portion of these deposits held at local institutions should be obtained from questionnaires. Total deposits should be related to income level and an average savings amount should be developed for each income bracket. The amount per bracket would then be extended by the number of employees in that bracket and the local portion determined. The total of all local savings and checking deposits maintained times one minus the minimum legal reserve requirement imposed on the lending institution would result in the potential amount of credit base expansion.

Student banking activity. The total value of savings and checking accounts of full-time students can be estimated using data obtained from questionnaires. The portion of these deposits held at local lending institutions should also be obtained from questionnaires. An average savings amount should be developed for graduate students and for undergraduate students. Each amount would then be extended by the number of students in each of those groups. The total, multiplied by one minus the reserve requirement, would result in the potential amount of credit base expansion.

Local business banking activity. Businesses typically maintain cash balances at savings institutions which are used in the conduct of current operations. The portion of these amounts on deposit locally that are the result of institution-related spending could logically be assumed to be the same as the ratio that total local institution-related expenditures is to total local business volume.

To calculate this amount, the cash-to-business volume ratio for businesses first must be determined. An overall average of this ratio for all business can be calculated using balance sheet and income statement data compiled in the FEDERAL TRADE COMMISSION QUARTERLY FINANCIAL REPORT FOR MANUFACTURING, MINING AND TRADE CORPORATIONS. This ratio is then applied to the total local business volume as a result of institution-related expenditures. (It is assumed that local businesses would hold all cash deposits at local banks.) The total of these deposits would be subject to reserve requirements. The remainder would be the credit base expansion.

To determine the total local business volume, it is recommended that the sum of wholesale, retail, services and manufacturing sales for those counties comprising your service area be used. This information should be obtainable through an appropriate state agency or from federal publications.

Aggregate credit base expansion. The total expansion of the local credit base would be the sum of the local credit base expansion as a result of institutional, faculty and staff, student and local businesses savings multiplied by one minus the reserve requirement.

Institutional Asset Ownership and Borrowing

In this section, the non-cash assets owned by the institution should be identified and discussed. The impact of property owned by the institution, not considering the question of its tax-exempt status, is primarily the result of increased property values and demand for property. This impact would be extremely difficult to measure accurately due to the many factors involved and the lack of readily available data. It is recommended that this subject be addressed in a narrative format.

In addition, included in this section would be the total of acquisitions, the total of earnings, (interest, dividends, rents and royalties), and the total net gains from the sale of investments and property, both for the fiscal year studied and as an average of the last five years.

Information on the assets of the endowment and similar funds would be a part of this analysis. Any transactions relating to these assets conducted at local financial institutions would generate an impact on the local economy.

A related item to the overall impact on the financial institutions would be the total direct debt and the annual payments for debt service of the institution. The amount of debt and the annual payments for debt service (principal and interest) should be listed. Information could also be included on the sources of borrowed funds (government, bond offerings, contributions, etc.). This could include a discussion of changes in the relative reliance of the various major sources of funds and the projected implications of these changes on future borrowing and on the financial community.

Faculty and Staff Property Ownership

The total value of real estate owned by full-time faculty and staff can be estimated using data supplied on the faculty/staff questionnaire relating to the number owning their residence and the estimated market value of that residence.

Capital Expenditures

The total of all expenditures for new acquisitions, repairs and renovations and construction must be determined. Because of the non-recurring nature of capital expenditures and the consequent possibility of unacceptable distortion from relying upon data of only one year, it is recommended that these amounts be computed as averages for the past five years expenditures.

Equipment, materials and supplies costs should be separated from total capital expenditures and the local portion of those costs should be determined. Labor costs would typically be local. Much of the information required for this section should be available readily from the contractors or architectural/engineering firms involved in the projects, as well as from institutional files and records of capital improvements.

The impact of institution-related total capital expenditures, averaged for the past five years, on the local community would be calculated by multiplying the average local capital expenditure by the multiplier developed and used to determine total institution-related expenditures for goods and services.

Impacts on Local Government

The existence of the institution places some burdens on its local community, primarily in terms of the loss of tax revenues as a result of the tax-exempt status of the institution, and the costs of services provided to the institution for which no or only partial reimbursement is received. The costs of community provided services and lost tax revenues are offset to some degree by the costs of institution-provided services to local government for which it receives no or only partial reimbursement.

Please note that it has been a conscious assumption that minimal attention be given to the interrelationships between the faculty, staff and students, the county, school district or municipal governments which provide services to them and their families. Such relationships are considered to be only indirectly involved in the institution's economic impacts upon the community.

Loss of Tax Revenues

The municipality, county and school district in which the institution is located would all receive some property tax revenues from the institution were it not exempt from taxes. No truly accurate way of determining the total amount of revenue that is foregone exists due to the subjectiveness of the assessment process, the lack of valid data on the market values of institutional facilities and the influence on the market values of other property due to the presence of the institution.

There are two basic approaches that can be taken in estimating the tax loss. One considers what taxes would be collected if the institution did not exist and the land was used for other purposes. The other considers what taxes would be collected if the institution were to lose its tax-exempt status.

In our opinion, more meaningful data and analysis can be developed using the method that considers the hypothetical tax collections given the institution did not exist. Various means can be used to estimate the tax bill.

a. The portion of tax-exempt acreage owned by the institution to total taxable acreage in the municipality is determined. The total municipal real estate tax rate per taxable acre is calculated and multiplied by the number of institution-owned exempt acres. County and school taxes would be developed on a similar basis (where applicable).

b. The acreage owned by the institution could be assumed to have been developed in a manner consistent with the development of other property in the area. The tax rate would then be calculated based on existent rates levied on property with similar use. Consideration must be given to the fact that in some cases, the development and value of other property in the area was influenced by the existence of the institution.

As an alternative to selecting only one of the above methods, both methods could be used and the potential tax collections could be presented as a range.

Annual Cost of Government Services Provided to the Institution

The annual cost of governmental services provided directly to the institution should be estimated. These costs would be for services such as police and fire protection, road maintenance, sanitation service, etc. The cost would be comprised of that portion of total annual costs for municipal personnel, equipment, materials and facilities required to provide adequate services. This information should be obtained from knowledgeable municipal officials. If this information is not available, an alternative approach to estimating the cost of services provided would be to determine the ratio for the number of persons associated with the institution (students, faculty and staff) living in institution-provided tax-exempt housing to the total population of the municipality. This ratio would then be applied to the total municipal cost of those services.

Once the costs of services provided to the institution have been determined, any taxes or fees paid by the institution for these services would be deducted. Any remainder would be the net cost to the community.

Annual Cost of Institution-Provided Services Directly to Local Government

The items comprising the services directly provided by the institution to local governments should be identified. Please note that these would only be services from which the local government would directly benefit. These would include services that the local government otherwise would be required to provide. The total cost of providing these services, less any reimbursement for those received would yield the net cost to the institution.

Impact on Local Employment

The total institution-related employment can be calculated by adding the number of employees directly employed by the institution to the number of employees in jobs created as a result of institution-related local expenditures (the sum of all local institution, faculty and staff, students and visitor expenditures) and that number of local government employees required to provide services directly to the institution.

To calculate the number of employees in jobs created as the result of institution-related local expenditures the amount of those expenditures would be multiplied by a coefficient representing the marginal change in employment per dollar spent in the community. This originally

was calculated by Caffrey and Isaacs[1] to be in the range of .00007-00009, or 70 to 90 jobs per million dollars of expenditure. However, this relationship, calculated based on data for 1970, would be subject to changes due to the effects of inflation and productivity levels. Based on these changes, we calculated the relationship to range from 36 to 46 jobs per million dollars of expenditure for 1980.

An alternative method for use in calculating jobs created due to higher education-related spending exists. This method requires the calculation of sales-per-employee ratios for the various industrial classifications covering the industries supplying goods and services to the institutions and individuals related to those institutions. These ratios are then applied against the appropriate expenditure amounts to yield the attributable employment.

The number of employees in local government can be calculated more directly. Once the total costs and types of services provided directly to the institution have been determined, the ratios of the cost to the institution to the total cost to the community for each service provided can be calculated. The ratio would then be applied to the total number of employees in each governmental department providing a service.

Other Impacts

Balance of Payments

By comparing the amount of funds received by the institution from outside of the local community (from all sources) to the total amount of expenditures made outside of the local community by the institution, a "balance of payments" for the operation of the institution can be developed.

This analysis only measures flows of funds into and out of the institutions. Calculation of a complete balance of payments that considered employee and student spending would require a substantial amount of additional data that would be extremely difficult to collect.

Net Return on Investment

By comparing the total revenues received from sources within the institution's service area to the total of all expenditures attributable to the institution made within the same area, a "net return on investment" can be calculated.

Additional Study Topics

It is not intended that institutions should restrict the scope and content of those studies to a standardized format. Rather, the institutions are encouraged to design their respective studies to accommodate their individual needs and circumstances, and the intended audiences of their reports. Following are some optional areas for attention, and for more extensive or intensive research than is suggested here, which have been incorporated in other community economic impact studies.

Relationships with Local Governments

It has been a conscious assumption that minimal attention be given to the interrelationships between the college or university and the county, school district or municipal governments which provide services to the institution, its employees and its students. Such relationships are only indirectly involved in the institution's economic impacts upon the community.

This minimal approach suggests that calculation be made of the tax and fee payments made by or on behalf of the institution to the local governments in the area and, of the "income withheld" from local governments which otherwise might be generated by the exempt land, and the hypothetical alternative improvements upon that land were the college or university not occupying it. An offsetting factor is the institution's positive influence on surrounding property values, and the consequent generation of a higher property tax base.

Additionally, it is suggested that an estimate be made of the costs of *incremental* services which the local governments are called upon to provide to the institution over and above those public services which it would be required to perform were the institution not present. It is not intended that this include services to the faculty and staff employees of the institution and their families.

Most other college or university higher education impact studies have gone at least to this extent in evaluating the impacts on local governments in their areas. Various approaches and methods have been used to obtain the necessary data, as discussed starting on page 11.

Other studies have gone further in analyzing local government impacts by presenting data on such factors as the net municipal services and school costs attributable to students and families of faculty and staff, tax contributions made by those students and employees and value of self-provided services such as fire protection and security.

Local Business Attitudes

Some economic impact studies have undertaken opinion polls of business establishments in the community which serve the institution, its employees and its students to determine extent of reliance and importance placed upon the college or university from a business standpoint. This sometimes is done by a special questionnaire process. It usually would be considered as a supplement to numerical information obtained relative to the sales of goods and services attributable to the presence of the college or university.

Industrial Development Influence

A possible subject to be included in an economic impact survey is the extent to which the presence of the university serves as an attraction to industrial location or expansion in the area. Usually presented in descriptive form, the factors discussed are the availability of research library and laboratory facilities, employee training or graduate teaching facilities, and the like. Numerical measurements of this type of attraction are difficult to calculate, requiring a largely descriptive presentation.

Closely related are the college or university contributions to the economy by providing personnel and facilities for pragmatic research having to do with product development, marketing, management organization and methods and similar business aids. It may be that unusual or extensive services made available in this area by an individual institution deserve special description and attention, including estimates of numerical data to measure the extent and potential values of the activity involved.

Special Training and Conference Facilities

It is suggested that all institutions might wish to identify and describe special training and conference facilities available to and utilized by the business community in and outside the immediate area. Individual institutions may

[1] John Caffrey and Herbert Isaacs, *Estimating the Impact of a College or University on the Local Economy* (Washington, American Council of Education, 1971).

wish to give special emphasis to any unusual facilities of this kind which are available to the business community, describing the facilities and their usage as measured by numbers of meetings and attendance in a specified time period.

Cultural and Entertainment Facilities

Only indirectly linked to the institution's economic impact on the area is the availability of cultural and entertainment events open to the public. Nevertheless, their indirect contributions to the local economic and social stability are proper subjects for inclusion in any of the economic impact study reports.

Included would be the presence of a general library, insofar as it is available to the public, or the offering of extension courses for cultural improvement of adults. It should be kept in mind that some entertainment events may be a negative factor in that they compete with private entertainment enterprises in the community.

Origin/Destination of Graduates

Although less adaptable to measurement in hard numbers, the most important contribution to the economy by an institution of higher education may be the incremental "value added" to the earning and productive capacity of its students. In this manual, by design, it is intended that emphasis will be given to the economic contributions of the institution as an operating enterprise, rather than to the longer range contributions attributable to the teaching process. As a matter of individual discretion, an institution may decide to give greater emphasis to the "human capital investment" element of the institution's economic contribution. Most of the writing in this area of study has been more scholarly than pragmatic, reflecting the difficulties of precise measurement of returns for the investment of higher education. This may present an opportunity for some innovative research on the part of the individual college or university.

It may well be also that individual institutions will want to present more comprehensive evidence of the residential origins of their student body, and the destinations of graduates. The extent to which the student body is drawn from the immediate region, and to which graduates are returned to that region is of special importance to some participants in the community economic impact case studies.

An origin/destination analysis would be of particular interest to the institution which enjoys a close affinity with the community as a learning resource for its residents.

Another area for potential analysis would include the career pursuits of recent graduates that would show their general occupational classifications and relate these to their current locations of residence. This would also contain a comparison of current occupation to major field of study.

The career objectives of the current students could be assessed and this could be compared to the expected demand in those occupational fields.

A general analysis of the institutional cost of educating a student through graduation could be calculated for several time periods. This would be the value added by the institution. The results could be analyzed and trends could be discussed and projected into the future.

The estimated present value of a graduate's lifetime earnings could be estimated by type of degree. From this a return on investment (value added) could be calculated. The present value of the education could be compared to the present value of lifetime earnings for non-college graduates.

Questionnaire Survey

The most widely used method to obtain information for estimating the economic contribution to the local community made by the presence of the institution's faculty, staff and student body in other economic impact studies has been the questionnaire. It is suggested that this procedure be used unless there has been a recent special study or there is another source of the same information which would be equally comprehensive, current and accurate.

Two major subject groups are involved — students, and persons on the institutional payroll including faculty, administrators and staff. The differences in their respective economic roles in the community suggest the use of two separate questionnaires.

Suggested sample questionnaires are presented in Exhibit 4, Student Questionnaire, and Exhibit 5, Faculty/Staff Questionnaire. The suggested questionnaire forms are designed to require minimum time on the part of the respondent in supplying only the most pertinent kinds of information, and to avoid the appearance of "personal prying". Each institution may wish to alter or expand these questionnaires to meet their special needs and circumstances.

A particularly important function of the questionnaire is to provide information on consumer spending, property ownership and banking within the boundaries of the institution's service area and within the state (if desired). The information returned obviously will be subject to wide variations in estimating accuracy by the respondent, particularly as to transactions within and outside the community, but should be within acceptable bounds.

It will be necessary for those conducting the study to establish policies as to the size of the samples to be questionnaired. It is suggested that faculty members having expertise in the sampling techniques be consulted to assure an adequate sampling, both in numbers and in stratified representativeness of the student body or staff.

If the end of formal classes is approaching, it is essential that first attention in the economic impact study be given to determining the sampling, reproducing the questionnaires, and distributing them.

A suggested technique for getting a prompt and inclusive response from students is to request that faculty members distribute them in class, and allow a brief time for the student to complete the questionnaire and return it during the class period.

It is suggested that a personal message from the college or university chief executive officer accompany the questionnaire, stating its importance and the benefits of a prompt response. A sample of what such a message might contain is shown as Exhibit 3.

Tabulation of the questionnaire response data may be facilitated, where the volume justifies, by automated data processing techniques and equipment. It is assumed that most institutions will have available equipment, programmers, and other ADP techniques to assist in this process. Analysis of the results will be correlated with data compiled concerning the institution and its service area.

EXHIBIT 3

PENNSYLVANIA HIGHER EDUCATION ECONOMIC IMPACT STUDY
Sample Message to Accompany Student and Faculty/Staff Questionnaires

MEMORANDUM

TO: Members of the Student Body, Faculty and Staff

FROM: (President)

DATE:

These are times when all institutions of higher education in Pennsylvania and elsewhere must compete aggressively for our proper share of scarce economic resources. To do so, we must not only justify our existence as learning institutions, but also demonstrate the sizeable contribution which we make to the economies of our communities and state.

To accomplish this, _____ College (University) is joining other colleges and universities in Pennsylvania to conduct a statewide survey of the economic impacts of higher education institutions on Pennsylvania's economy and on the economies of selected communities.

We have been selected as one of several institutions to conduct intensive studies of our economic impacts on the economies of our respective communities. An essential part of that survey will involve compiling information on the importance of the family or personal income, expenditures and other economic activities of our student body and our faculty and staff members. To do this, we are asking you to provide for us certain information concerning your earnings, expenditures, housing, banking and borrowing activities.

It is particularly important to allocate these amounts according to whether they are located or transacted in the local community, which includes the counties of (counties in service area), and with the state of Pennsylvania. In most cases, the information requested will be in the form of estimates, which we urge you to calculate as accurately as possible. The responses will be kept strictly confidential and all data obtained from these questionnaires will be presented in aggregate form to further assure anonymity.

Your cooperation in completing all of the information that is applicable, and promptly returning the questionnaire is most essential to the success of this Survey, which in turn is important to the adequate future financing of our college (university) and of higher education in Pennsylvania.

Thank you for your assistance.

EXHIBIT 4

PENNSYLVANIA HIGHER EDUCATION ECONOMIC IMPACT STUDY
Student Questionnaire

1. What is your status? (check appropriate category)
   _____Undergraduate _____Graduate
2. Are you enrolled full-time or part-time?
   _____Enrolled full-time
   _____Enrolled part-time for _____ credit hours
3. In what type of housing do you reside?
   _____Dormitory
   _____Organized group housing (fraternity, sorority, etc.)
   _____Rent (private room, house or apartment)
   _____Live with parents
   _____Other
4. Do you regularly eat at a school dining hall? _____yes _____no
5. Please indicate the category that contains the amont of your total earnings in 1980. (Exclude proceeds of any gifts, grants or loans.)

Under $1,500	_____
$1,500 to $2,999	_____
$3,000 to $4,499	_____
$4,500 to $5,999	_____
$6,000 to $7,499	_____
Over $7,500	_____

6. Please list your average monthly expenditures for the following items and estimate the portions of those expenditures made in the local area and also the portions made in Pennsylvania (including local area).

Item	Monthly Average Total	Percent Spent Locally	Percent Spent in Penna.
A. Housing-rent, furnishings, utilities, (**Do not** include cost of college-provided student housing)	$_____	_____%	_____%
B. Food (**Do not** include dining hall or resturant food costs)	$_____	_____%	_____%
C. Restaurant food and entertainment	$_____	_____%	_____%
D. Other — transportation, clothing, medical care, personal care, etc.	$_____	_____%	_____%

7. Please list the total cost of all major purchases made within the past 12 months. Include the cost of such items as cameras, stereos, TV's, automobiles, motorcycles, etc. **NOTE:** These would be items valued at more than $100 with an expected useful life of more than one year.
   Total $_____ % Local _____% % in Penna. _____%
8. Please indicate the category that contains the amount that equals the combined balances of your checking and savings accounts as of the end of 1980.

Under $250	_____
$250 to $499	_____
$500 to $749	_____
$750 to $999	_____
$1,000 to $1,249	_____
$1,250 to $1,499	_____
Over $1,500	_____

   What portion of this amount is on deposit at local banks on savings institutions? _____%
9. How often do you have visits from your parents or from friends who do not attend this school? _____times in a year
10. Please estimate their total expenditure per visit. Include costs of food, transportation, lodging, etc. $_____
11. Have you or has anyone on your behalf obtained a loan for the purpose of furthering your education? ____yes ____no
12. Please estimate the total dollar amount of all loans for educational purposes you will have accumulated by the time you graduate. $_____

EXHIBIT 5

PENNSYLVANIA HIGHER EDUCATION ECONOMIC IMPACT STUDY
Faculty/Staff Questionnaire

1. What is your status at the institution? (check appropriate category)

   _____Professional staff (faculty, administration, staff)
   _____Non-professional staff (secretarial, clerical, custodial, maintenance)
   _____Other

2. Are you married or the head of a household? _____yes _____no
3. What is the number of family members living in your household? _____
4. In what county do you reside? _____
5. Do you own or rent your home? _____own _____rent

   If you own your home please estimate its current market value $_____

6. Please indicate which category contains the amount equal to your total salary or wages received from the institution in 1980.

   Under $10,000 _____
   $10,000 to $14,999 _____
   $15,000 to $19,999 _____
   $20,000 to $24,999 _____
   $25,000 to $29,999 _____
   $30,000 to $34,999 _____
   $35,000 to $39,999 _____
   Over $40,000 _____

   What portion is this amount of your household's total income? _____%

7. Please list the monthly average expenditures of all persons in your household for the following items in 1980. Please also estimate the portions of those expenditures that are made locally and the portions made in Pennsylvania. (Calculation of the portion of expenditures made in Pennsylvania would include those made locally.)

Item	Monthly Average Total	Percent Spent Locally	Percent Spent in Penna.
A. Housing: (1) rent/mortgage; (2) heat, repairs, furnishings, utilities	$_____	_____%	_____%
B. Food (**Do not** include dining out)	$_____	_____%	_____%
C. Restaurant food and entertainment	$_____	_____%	_____%
D. Other (transportation, clothing, medical care, personal care, etc.)	$_____	_____%	_____%

8. Please list the total cost of all major purchases made within the past 12 months. Include the cost of major applicances, automobiles, furniture, etc. **NOTE:** These would be items valued at $100 or more with an expected useful life of more than one year.

   Total $_____ % Local _____% % in Penna. _____%

9. Please indicate which category contains the amount equal to the combined total balance of your savings and checking accounts as of the end of the year 1980.

   Under $1,500 _____
   $1,500 to $2,999 _____
   $3,000 to $4,499 _____
   $4,500 to $5,999 _____
   $6,000 to $7,499 _____
   $7,500 to $9,999 _____
   Over $10,000 _____

   What portion of this amount is on deposit at banks or savings institutions located within the local area? _____%

Calculation of Multiplier

The multiplier is used to calculate the expansion of money through respending as the result of some initial spending from a single source. The final impact of the initial expenditure will be some multiple of that expenditure. It is based upon the percent of each dollar spent locally that is respent locally in the successive rounds of spending and is, in part, dependent upon the size and degree of self-sufficiency of the community.

Following a review of the various methods employed to develop multipliers from statistical data, the following process is recommended for use in calculating a multiplier for total institution-related expenditures. The methodology presented below is primarily based on the findings of a study of multipliers used in economic impact studies at institutions of higher education.[1] The study examined the various methods used and presented a more concise method employing two different multipliers, one based on the unique pattern of institutional expenditures and the other based on a more generalized pattern of expenditures by individuals.

The multiplier in this model is actually the ratio of the value added by initial institution-related spending and the value added by induced consumer respending. For the purpose of these calculations, value added is equated to payroll as a percentage of sales. A weighted value added ratio for institution-related expenditures is calculated using the local payroll-to-sales ratios for the types of businesses (by Standard Industrial Classification) supplying the goods and services. As mentioned previously, this methodology is based on the assumption that the mix of purchases of goods and services made by the institution and the proportion of these purchases that are made locally would be different than the mix and proportion of purchases made by individuals. A second assumption is that the mix and proportion of purchases made by faculty and staff members and by local residents (in the respending rounds) would be similar.

The formula used to calculate this multiplier (m) is:

$$M = 1 + \frac{r}{1-s}$$

where r = ratio of initial local spending to total spending (of institutions and individuals) and s = ratio of induced local spending to initial local spending.

To calculate your multiplier, the following is recommended:

1. Using the data developed on the total of non-capital goods and services purchased from businesses by the institution (Item III-G, Appendix D) calculate the dollar value for the local portion of the expenditure objects listed.

2. Next, calculate the value added ratios for each of the expenditure objects listed using the payroll and sales figures for the counties comprising your service area. The recommended Standard Industrial Codes (SIC) for each expenditure object are listed below:

Expenditures	**SIC**
Utilities	49
Communications	48, 731
Publishing and printing	274, 275
Insurance	63, 64
Service contracts:	
Maintenance	734
Food	5812
Security	7393
Accounting	8931
Travel and transportation:	
Auto	75
Hotel/motel	70
Air transportation	45
Other services	7399
Retail/wholesale purchases	(use totals for retail category)

This information is available by county, by SMSA and also as statewide totals and can be obtained from the following sources:

U.S. Department of Labor, *County Business Patterns* series.

U.S. Bureau of the Census, *Census of Selected Service Industries* (by state)

U.S. Bureau of the Census, *Census of Manufacturing* (by state)

U.S. Bureau of the Census, Census of Retail Trade (by state)

NOTE: If there is no SIC listing for an expenditure object, it is recommended that statewide figures for that SIC be substituted.

3. Calculate the local value added amount for each expenditure object by multiplying the total local expenditure for each expenditure object by its value added ratio. Add the products of these operations to arrive at a total local value added amount.

4. Using information developed for the personal expenditure patterns of full-time faculty, staff and students and for visitors, calculate *the total of local expenditures* for these groups.

5. Determine the portion of payroll spent locally for full-time faculty and staff using the methodology explained on page 9.

6. Calculate r, the proportion of total university spending that is spent locally.

a. Determine the initial local income (payroll) generated by the institution's local spending by multiplying the total local value added (Step 3) by the ratio of local spending to total payroll for full-time and staff (Step 5).

b. Calculate the total initial local spending by adding the *total local expenditures* of full-time faculty, staff and students and of visitors (Step 4) and the initial local income generated by local purchases made by the institution (Step 6a).

c. Determine the total of institution-related expenditures by adding the *total of purchases* of goods and services by the institution (question III-G on the Pennsylvania Higher Education Impact Study Questionnaire — Appendix C) and the total expenditures of full-time faculty, staff and students and visitors.

d. Calculate the ratio of initial local spending to total institution-related spending by dividing the result for Step 6b by the result for Step 6c.

7. Calculate s, the secondary local spending induced by the initial local spending.

a. Determine the payroll-to-sales ratio for the local service area. The payroll-to-sales ratio is calculated using the total payroll and total sales figures for the retail

[1] Charles D. Salley, *Georgia State University Spending Patterns and the Atlanta Economy*. Atlanta: Georgia State University, December, 1976.

trade establishments in the counties comprising the service area.

b. Calculate the local value added of the total initial local spending by multiplying the result of Step 6b by the result of Step 7a.

c. Calculate the induced local spending by multiplying the result of Step 7b by the proportion of payroll spent locally (Step 5).

d. Calculate the ratio of induced local spending initial local spending by dividing the result of Step 7c by the result of Step 6b.

8. Computation of the multiplier m, where $m = 1 + \frac{r}{1-s}$ and r = result of Step 6d and s = the result of Step 7d.

The calculation of the total institution-related local business volume is accomplished by multiplying the sum of all local expenditures by the institution, faculty and staff, students and visitors by the multipiler.

Once the total institution-related local business volume has been calculated the value of local business real property committed to institution-related business can be estimated. This is done by multiplying the ratio of institution-related local business volume to total local business volume by the market value of local business real property. Total local business volume would be (for the purposes of the study) the sum of all retail, wholesale and service industry sales and the value added by manufacturing establishments for the counties comprising the service area. Market value of local business real property is found by dividing the assessed value by the assessment ratio.

The value of local business inventory committed to institution-related business can also be estimated by multiplying the total of institution-related local business volume by an inventory-to-business volume ratio. The inventory-to-business volume ratio can be developed using the FEDERAL TRADE COMMISSION QUARTERLY FINANCIAL REPORT series as one source of data.

Please note that the calculation of the local business real property and inventories committed to institution-related local business volume involves a good deal of subjectivity and can be quite cumbersome to accomplish. The expected value and use of this information should be considered before undertaking the calculation process.

IV. STUDY METHODOLOGY — MULTI-INSTITUTIONAL

Conducting an economic impact study that identifies, combines and analyses the various impacts of two or more institutions can be accomplished using the same methodology as presented in the previous chapter. However, some modifications may be required for optimal results.

This chapter presents both practical and technical factors to be considered in the conduct of a multi-institutional study. Much of what is presented is the result of experiences encountered during the course of the Pennsylvania Higher Education Economic Impact Study.

Commitment by Participants

Perhaps the most basic requirement to assure a successful study outcome is a strong commitment on the part of the participants to the need for such a study. Unless previously existing data are used exclusively, demands for various types of information will be made from each institution. The effort to collect and analyze these data will require the time and effort of individuals already busy performing their regularly assigned tasks. Without a commitment to the study on the part of institution officials, it is unlikely that adequate resources will be assigned to the task. The use of a statewide or group association to promote the importance of the study and assure the continuance of the commitment by the participants is recommended.

Study Planning and Design

In the course of planning and designing a multi-institution economic impact study, there are several factors that should be addressed. These factors relate to both general and specific topics. Decisions on each of these factors should be made before any work on the study begins.

General Considerations

Purpose of the study. There are some factors in the identification of study purpose that merit mentioning. The purpose of the study should be identified and clearly stated to all participants. In this way, the significance of the various subjects that could be covered can be seen and agreed upon. A general economic impact study would typically assign an equal importance to subjects. However, some studies are conducted to show the impact only on certain factors of the economy such as employment or community services provided at reduced or no cost by the institutions. Because each participating institution will be contributing data it is important that the subjects studied by given the same priority by each.

Impartiality. Economic impact analysis is an inexact process that includes many factors that can be difficult to identify and measure. In addition, some of these factors are positive and some are negative. Manipulation of these factors, whether intentional or not, can have a significant affect on the final results of the study. Depending on the purpose and intended audience of the study, consideration should be given to need for an impartial research team.

Comparability. Unless it is an intended result, the study findings should not be presented in a way that permits or encourages comparisons among individual institutions or types of institutions. A statement of this policy should be made known to all potential participants. In the Pennsylvania study, responses were kept confidential and data were presented in such a manner as to protect the identity of individual responses.

Use of committees. There are several advantages to the use of committees for both the general and technical guidance of the study. While it is not recommended that committees be involved in the day-to-day operations of the study, general direction provided by committee members serves to assure that the varied interests of the participating institutions are represented and that the effect of any bias on the part of the research team is reduced. The use of a committee to provide technical advice provides a method for utilization of the expertise available at the institutions.

Use of computers. Depending on the types and quantities of data to be collected and analyzed the need for electronic data processing should be determined in advance. Use of educational institutional facilities should be considered due to the potential cost advantages.

Specific Considerations

In addition to the general considerations stated above, decisions on some items of a more specific nature should be made.

Scheduling. Care should be taken that the timetable established for the conduct of the study does not conflict with the time schedule at any of the participating institutions (semester breaks, vacations, etc.). Other studies have found data collection difficult when requests were made either too close to the end of a term because of other requirements on faculty and students' time, or too early in the fall term because students have not established spending patterns.

Availability of data. A thorough effort should be made to identify, locate and review all sources of pertinent existing data. Based on this assessment the need for original data can be determined. Once the review of data availability and reliability has been accomplished, the goals of the study should be reviewed to assure that data will be sufficient to meet those goals.

Collection of original data. Original data must be collected when existing data are insufficient for study purposes. Usually this type of data will include information on personal spending habits of students and institutional employees and spending patterns and locations for purchases of goods and services by the institution.

A standardized questionnaire is the method most frequently used to collect these types of data. Care should be taken to assure that the questionnaire is as simplified as possible so that only information truly needed is requested and so that the questions are clear and simple to understand. It may be necessary to define some of the terms used in the questions (especially accounting terms) to be certain that each interprets them the same. The questionnaire should be constructed so that the responses will be in a format that will either incorporate into or be comparable with existing data. Instructions accompanying the questionnaire should contain a brief explanation concerning the study and the intended use of the data requested (see Appendix B and C).

Use of case studies. Case studies are in-depth studies conducted at a sample number of institutions. They are used to obtain original data to serve as the basis for projections of totals for the population. In addition, they can

serve to complement the overall study by providing specific examples of the economic impacts and services provided to a local area. The use of case studies reduces the volume of data to be compiled and analyzed and may provide the only practical alternative when there is a large number of participating institutions involved in the study. Criteria should be established for case study selection and each selected institution should receive a uniform set of study guidelines and procedures.

Time period. Economic impact studies measure the impact of the institutions in a specified period of time (usually one year). It is important that whatever time period is selected is representative of normal operations, that all participating institutions have data available for that period and that comparable data exist or can be developed for the study impact area.

Communication and coordination. The number of problems that can arise as the result of breakdowns in communications or coordination is a function of the number of participants, the effectiveness of the instructions and materials given to them and the degree of oversight maintained by the study team.

The need for concise and understandable study materials has been discussed in this and the preceding chapters. Oversight is necessary to assure that methodological guidelines are followed and time schedules are met. As a minimum, it is recommended that periodic phone contact be made with the participants on a regular basis.

The initial communication with the participating institutions should be through the President's Office. The President should be requested to designate the person who will actually conduct the research for the institution and forward the appropriate results to the study team. The designated person should be the principal contact at the institution for all communication relating directly to the study.

APPENDICES

APPENDIX A

Suggested Study Report Outline

A. Introduction

1. The Community
   a. *Description of Service Area:* population centers, dominant economic activity
   b. *Socio-economic Characteristics:* population, age distribution, value of production, personal income, employment, etc.
2. The Institution
   a. *Brief Historical Statement* — chronological outline of major developments, present organization (e.g. departments, branches); auxiliary enterprises
   b. *Current Objectives* — academic levels, programs and degree offerings, areas of academic emphasis
   c. *The Student Body* — student enrollment structure and trends; distribution of current enrollment by academic levels, programs or disciplines; students' permanent residences, marital status, housing; numbers and kinds of degrees granted
3. General Financial Characteristics
   a. *Current, Past and Future Trends* — income totals by major functions and objects; total plant and equipment values; total value of endowment and other investments; current outstanding indebtedness trends
4. Auxiliary Enterprises and Business Services
   a. *Auxiliary Enterprises* showing type, location, function, volumes of activity (number admissions, number contracts, etc.), annual sales, employment, payrolls, annual purchases of goods and services; value of plant and equipment (percent of college totals)
   b. *Research Services* — number, type, annual income (public, private sources), annual cost, measures of volume or frequency (e.g., number, values of contracts)
   c. *Consultative and Advisory Services* — available to business including agriculture — frequency, type, annual income, cost to institution
   d. *Extension and Special Education* — related to economic enterprise — net cost — in-service training services, adult education, technical seminars, conference facilities
   e. *Meeting and Conference Facilities* — number participants served; net cost to institution; estimated enhanced community income from conference attendees

B. Identifying Economic Impacts

1. The Institution as an Employer
   a. *Numbers of Classifications of Staff* (e.g., faculty, general administration, support employed students); full and part-time; community residents and others
   b. *Payrolls Generated* — by classification; pay and cash benefits; by residences of employees (in service area, elsewhere)
2. The Institution as a Consumer

   Briefly discuss the total of institution-related expenditures which would consist of direct expenditures by the institution and expenditures made by faculty, staff, students and visitors to the institution.
3. The Institution as an Investor, Borrower and Property Owner

   Briefly discuss the contributions made by the institution and its faculty, staff and students to the local economy through their deposits at local lending institutions, their ownership of property and as holders of securities and other investments.

C. Calculation of Economic Impacts

1. Impacts of Current Expenditures for Goods and Services
   a. *Institutional Expenditures* — for purchases of goods and services — including auxiliary enterprises — by major object (e.g. utilities, insurance, services, etc.) — 1979-80 — in and outside community
   b. *Faculty and Staff Expenditures* — for goods and services — in and outside community
   c. *Student Expenditures*
   d. *Visitor Expenditures*
   e. *Aggregate Expenditures for Goods and Services* — the total of direct expenditures by the institution and its faculty, staff, students and visitors is calculated. The multiplier is applied to this amount for the effect of respending.
2. Impacts of Saving, Borrowing and Asset Ownership
   a. *Savings Impacts*
      (1) Institutional savings impacts — savings and demand deposits — average monthly balances within and outside service area
      (2) Faculty and staff savings impacts — savings and demand deposits — average monthly balances within and outside service area
      (3) Student savings impacts — savings and demand deposits — average monthly balances within and outside service area
      (4) Local business banking activity — based on cash-to-business volume ratio multiplied by total institution-related local expenditures
      (5) Aggregate credit base expansion — total institutional, faculty and staff, student and institution-related local business savings multiplied by one minus the legal reserve requirement ratio

b. *Institutional Asset Ownership and Borrowing* — impact of non-cash assets (securities, land, buildings, etc.) owned by the institution on the service area in general and on the local financial institutions in particular. Include discussion of outstanding debt and debt service.

c. *Faculty and Staff Property Ownership* — impact of faculty and staff-owned property on local property values and demand for property

d. *Capital Expenditures* — average annual expenditure for last five years for new construction (labor, materials and equipment) — impact on local construction industry

3. Impacts on Local Government

a. *Compensating Factors* — local tax exemptions; increments in surrounding property values; incremental municipal service costs; college-provided services to local government

4. Impact on Local Employment

a. *Secondary Employment Generated* — estimated numbers and compensation of secondary college-related employment by vendors, contractors, governments, service enterprises, in and outside community

D. Summary of Aggregate Community Impacts

1. Total Employment:
Number jobs provided, direct and secondary; payrolls generated, direct and secondary; comparison with total service area employment and earnings

2. Total Consumption Expenditures:
Institutional (including auxiliary enterprises), faculty, staff, students, visitors; direct and secondary; comparison with total wholesale-retail sales in community

3. Total Bank Deposits:
Institution, faculty, staff, students — compared with total community banks' deposits

4. Total Property Investment:
Total institutional property values, plus faculty/staff owned property values; ratio to total community property market value; values of tax-exempt institutional properties

APPENDIX B

PENNSYLVANIA ASSOCIATION OF COLLEGES AND UNIVERSITIES
800 NORTH THIRD STREET • HARRISBURG, PENNSYLVANIA 17102

Chairman
CHARLES E. ROLLINS, President
Bucks County Community College

President
JAMES A. REAM
PHONE (717) 232-8639

March 23, 1981

TO: Pennsylvania College and University Presidents

FROM: James A. Ream, President

SUBJECT: Economic Impact Questionnaire

As you know, a study of the economic impact of higher education on Pennsylvania is being conducted by the Pennsylvania Economy League for the State Board of Education and PHEAA. We fully expect that the information gained from this study will prove to be of great value to the higher education community collectively as well as to each individual institution.

As part of the study, each institution is being asked to complete the enclosed questionnaire. The questionnaire requests data on institutional revenues and expenditures and also some general information. You may note that some of the information requested duplicates that which is already available from other sources. However, since this information is used to provide the basis for deriving or estimating other responses its inclusion is felt to be necessary. The completed questionnaires will be kept confidential with the responses combined with those from other institutions and analyzed on a statewide and regional basis.

It is most important that the questions be answered using as much factual data as possible. It is recognized that some of the questions would require a prohibitive amount of time and effort to answer with complete accuracy. These questions should be answered using the estimating method that will, in the judgement of the person most familiar with the particular subject, result in the optimal response in terms of acuracy gained and effort expended.

Representatives of several institutions were consulted during the development of this questionnaire. Based on their estimates the questionnaire should be able to be completed and returned within 30 days. Your response at the earliest feasible date will contribute to the timely completion of this important study.

Please call Robert Greenwood of the Pennsylvania Economy League staff, (717) 234-3151, if you have questions. Your completed response should be returned to Mr. Greenwood in care of the Pennsylvania Economy League, 105 N. Front Street, Harrisburg, PA 17101.

JAR:rh
Enclosure

APPENDIX C

PENNSYLVANIA HIGHER EDUCATION ECONOMIC IMPACT STUDY QUESTIONNAIRE

Introduction

The following information is to be used as part of a study to determine the economic impact of higher education in Pennsylvania. The study is being conducted for the Pennsylvania Association of Colleges and Universitites (PACU), the Pennsylvania Higher Education Assistance Agency (PHEAA) and the State Board of Education by the Pennsylvania Economy League.

Each four-year college or university and all community colleges in the state will be receiving this questionnaire and will be requested to answer it as accurately as possible. The information obtained will be kept confidential and will be presented in aggregate form in the study report, scheduled for completion in mid-1981.

Much of the information requested in the questionnaire should be available readily from your internal records. Whenever possible, the questions were developed to request information in a manner similar to that already required for some other purpose (e.g., HEGIS reporting). However, it is recognized that some of the information sought will have to be derived or estimated. It is most important that you try to obtain this information using as much factual material and logical reasoning as you can to enhance its accuracy. Institutions with multi-campus operations should use combined data when formulating responses for this questionnaire.

Both definitions and methods for deriving some of the information requested are included in the instructions to the questionnaire. However, should you require any clarification or have any questions on any aspects of this study or its intended use, please feel free to contact Bob Greenwood of the Pennsylvania Economy League at (717) 234-3151.

The success of this study will depend upon the quality of responses received. We therefore, request that you devote as much time as possible to completing this questionnaire and returning it promptly. We would appreciate receiving your completed response by April 30, 1981.

I. General Information

A. Name of Institution _____
PHEAA Institutional Code #_____

B. Location of Main Campus:

Please indicate the name and number of the county in which the main campus is located. A list of county names and numbers is provided.

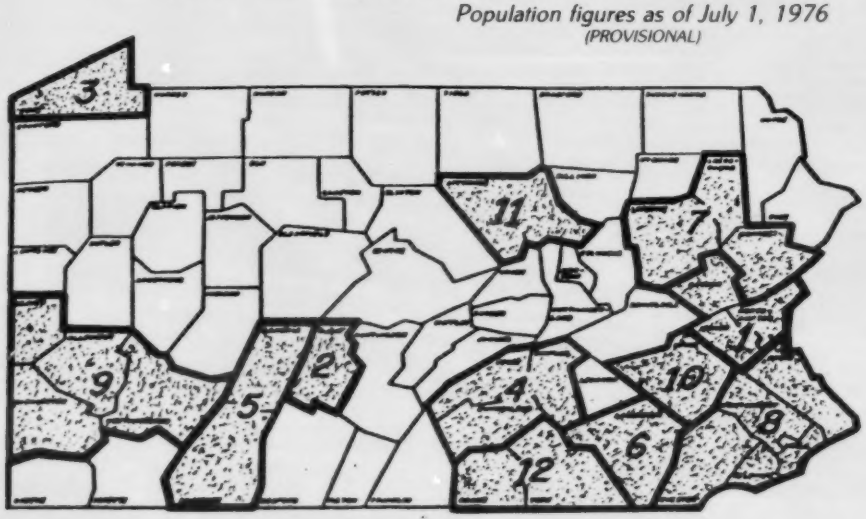
County_____ County #_____

Please indicate if the main campus is situated within the boundaries of a Standard Metropolitan Statistical Area (SMSA) and if so, which SMSA it is. A map of the SMSA's is provided.

SMSA _____ _____ SMSA #_____ _____
yes no

Standard Metropolitan Statistical Area SMSA's in Pennsylvania

Population figures as of July 1, 1976
(PROVISIONAL)



STANDARD METROPOLITAN STATISTICAL AREAS

1.	Allentown-Bethlehem-Easton, Pa.-N.J.	542,100
2.	Altoona, Pa.	133,800
3.	Erie, Pa.	275,000
4.	Harrisburg, Pa.	428,600
5.	Johnstown, Pa.	268,000
6.	Lancaster, Pa.	345,200
7.	Northeast Pennsylvania	635,000
8.	Philadelphia, Pa. (Pa. portion)	3,802,100
9.	Pittsburgh, Pa.	2,306,300
10.	Reading, Pa.	305,900
11.	Williamsport, Pa.	115,300
12.	York, Pa.	351,500

COUNTIES

1	Adams	18	Clinton	35	Lackawanna	52	Pike
2	Allegheny	19	Columbia	36	Lancaster	53	Potter
3	Armstrong	20	Crawford	37	Lawrence	54	Schuylkill
4	Beaver	21	Cumberland	38	Lebanon	55	Snyder
5	Bedford	22	Dauphin	39	Lehigh	56	Somerset
6	Berks	23	Delaware	40	Luzerne	57	Sullivan
7	Blair	24	Elk	41	Lycoming	58	Susquehanna
8	Bradford	25	Erie	42	McKean	59	Tioga
9	Bucks	26	Fayette	43	Mercer	60	Union
10	Butler	27	Forest	44	Mifflin	61	Venango
11	Cambria	28	Franklin	45	Monroe	62	Warren
12	Cameron	29	Fulton	46	Montgomery	63	Washington
13	Carbon	30	Greene	47	Montour	64	Wayne
14	Centre	31	Huntingdon	48	Northampton	65	Westmoreland
15	Chester	32	Indiana	49	Northumberland	66	Wyoming
16	Clarion	33	Jefferson	50	Perry	67	York
17	Clearfield	34	Juniata	51	Philadelphia		

C. Enrollment:

Please list your enrollment as of Fall, 1980 as reported for HEGIS. Please show these numbers broken down by in-state and out-of-state students.

	Full Time	Part Time	Full-Time Equivalent
1. Undergraduate			
a. in-state students	_____	_____	_____
b. out-of-state students	_____	_____	_____
2. Graduate			
a. in-state students	_____	_____	_____
b. out-of-state students	_____	_____	_____
3. Non-degree	_____	_____	_____
a. in-state students	N/A	_____	_____
b. out-of state students	N/A	_____	_____

D. Student housing:

Please list student housing information for students enrolled full-time as of fall, 1980.

	Number of Students
1. College-provided housing	_____
2. Rental housing	_____
3. Fraternity/Sorority	_____
4. Parent or relative	_____
5. Own own home	_____
6. Other	_____

E. Estimated average annual cost of enrollment:

Please provide the estimated average annual (academic year) total cost of enrollment, including tuition, room and board, fees, books, other necessities, entertainment, etc., for a full-time student (usually calculated by the Financial Aid Office).

	Tuition	Room & Board	Other Expenses
In-State Resident:			
1. Graduate	$ _____	$ _____	$ _____
2. Undergraduate	$ _____	$ _____	$ _____
Out-of-State Resident:			
1. Graduate	$ _____	$ _____	$ _____
2. Undergraduate	$ _____	$ _____	$ _____

F. Financial Aid:

Please list the totals for all forms of student financial assistance, including scholarships, fellowships, work/study, grants, and student loans for fiscal year 1979-80.

	Grants and Scholarships	Loans
1. Federal government	$_____	$_____
2. Pennsylvania	$_____	$_____
3. Other States	$_____	$_____
4. Local government	$_____	$_____
5. From the institution	$_____	$_____
6. Other (corporate, private, etc.)	$_____	$_____

G. Visitors:

Please estimate the annual number of visitors visiting the institution. *Do not* include currently enrolled students in any of these numbers.

1. Athletic events_____
2. Cultural events (theater, concerts, exhibits, etc.)_____
3. Alumni functions_____
4. Prospective students_____
5. Conferences and seminars_____
6. Other_____

H. Research and public services:

On a separate sheet, please list and describe the types of research and public services formally organized and sponsored either externally or by the institution that directly benefit either business and industry, agriculture, or government. Public services should be those established to provide noninstructional services beneficial to the above mentioned groups. Such services would include, but not be limited to, research projects, training, technical, and management consulting, laboratory testing, general advisory services, conferences and institutes, and cooperative extension efforts. Please include an estimate of the number of employees primarily engaged in the performance of these activities and the total annual expenditure for these services for fiscal year 1979-80.

I. Cash and Investments:

Please provide the following information (all funds combined) for fiscal year 1979-80.

1. Average monthly balance of demand deposits, time deposits, CD's and notes.
   a. on deposit at local institutions $_____
   b. on deposit at non-local institutions in Pennsylvania $_____
   c. on deposit out-of-state $_____
2. End-of-year book value of stocks, bonds, and other securities $_____
3. End-of-year market value of stocks, bonds, and other securities $_____

J. Book value of land, buildings and capital equipment as of end-of-year fiscal 1980:

1. Land $_____
2. Buildings $_____
3. Equipment $_____

K. Total outstanding debt:

Please list the total of outstanding direct debt (total debt less sinking fund balance) of the institution as well as that portion of the debt owed to in-state lenders, the federal government, and other sources as of end-of-year fiscal 1980. *Do not* include the debt of any Authority or General Obligation Bonds issued by any public agency.

1. From in-state lenders $_____
2. Federal loans $_____
3. Other $_____

L. Annual capital expenditures:

Please list the actual annual capital expenditures for new facilities and renewal and replacement for fiscal years 1975-76 through 1978-79.

Fiscal Year	Land and Buildings	Equipment
1975-76	$_____	$_____
1976-77	$_____	$_____
1977-78	$_____	$_____
1978-79	$_____	$_____

II. Revenues and Other Additions

The following section requests information relating to fund additions received by the institution in fiscal year 1979-80. Most of this information should be available from either the "Statement of Changes in Fund Balances" or the "Statement of Current Funds, Revenues, Expenditures and Other Changes".

A. Total revenues and other additions:

Please show the total of all funds received in fiscal 1979-80, whether expended or not. NOTE: Items B through I in this section should total to this amount $_____

Please explain on a separate sheet if there is more than a five percent difference between the total of items B through I and this amount.

B. Tuition and fees:

Please list the total of all tuition and fees assessed against students for educational purposes for fiscal year 1979-80. *Do not* include charges for room and board or other services rendered by auxiliary enterprises.

1. Tuition and fees from in-state students $_____
2. Tuition and fees from out-of-state students $_____

C. Government appropriations:

Please list those funds appropriated by governmental sources through legislative acts for fiscal year 1979-80. This would not include grants or contracts. Appropriations should be listed by the government level of the legislative body funding the appropriation.

1. Federal
   a. Direct payments to school $_____
   b. Federal funds distributed through other levels of government $_____
2. State $_____
3. Local $_____

D. Government grants and contracts:

Please list all funds received from, or made available by government agencies for specific projects or programs, including student aid for fiscal year 1979-80. However, *do not* include student aid awarded to *individual* students by the state.

1. Federal
   a. Restricted $_____
   b. Unrestricted $_____
2. Pennsylvania
   a. Restricted $_____
   b. Unrestricted $_____
3. Local
   a. Restricted $_____
   b. Unrestricted $_____
4. Foreign and other states
   a. Restricted $_____
   b. Unrestricted $_____

E. Private gifts, grants, and contracts:

Please list all amounts received by the institution or by an independent entity representing the institution from governmental organizations or individuals for fiscal year 1979-80. Also, please estimate to the best of your ability the portion of these amounts received from in-state sources.

1. Individuals and estates
   a. Restricted
      1. total $_____
      2. estimated portion from in-state sources $_____
   b. Unrestricted
      1. total $_____
      2. estimated portions from in-state sources $_____

2. Corporations
   a. Restricted
      1. total $_____
      2. estimated portion from in-state sources $_____
   b. Unrestricted
      1. total $_____
      2. estimated portion from in-state sources $_____
3. Foundations
   a. Restricted
      1. total $_____
      2. estimated portion from in-state sources $_____
   b. Unrestricted
      1. total $_____
      2. estimated portion from in-state sources $_____

F. Income from current, plant, loan, endowment and similar or other funds deposited or invested:

Please list all income (interest, dividend, royalty and rental) earned by these funds in fiscal 1979-80.

1. Annual interest, dividend, royalty and rental income $_____
2. Estimated portion earned from in-state sources $_____
3. Net gain from sales of investments $_____

G. Sales and services rendered:

1. Educational activities:

   Please list the amount of all funds derived from the sale of goods or services in fiscal year 1979-80 that are incidental to the conduct of instruction, research or public services; e.g. films, publications, seminars, testing, non-enrolled and non-degree students, etc. Estimate that portion of these funds that are derived from in-state customers.

   a. Total $_____
   b. Estimated portion from in-state sources $_____

2. Auxiliary enterpises (excluding hospitals):

   Please list the amount of all funds derived from the sale of goods or services for the following auxiliary enterprises in fiscal year 1979-80.

   a. Dormitories/Faculty housing $_____
   b. Food service $_____
   c. Student health service $_____
   d. Student stores and services $_____
   e. Athletic events $_____
   f. Hotels and lodging $_____
   g. Other — conference fees, etc. (Please list any enterprises that generate revenues of $5,000 or greater) $_____

3. Hospitals, clinics, and medical centers:

   Please list all funds directly attributable to the operation of a hospital in fiscal year 1979-80. This would not include those funds derived from grants, gifts, appropriations or endowment income. Estimate that portion of these funds that are received from in-state sources

   a. Total $_____
   b. Estimated portion from in-state sources $_____

4. Computer centers:

   Please list revenues received from customers using computer center facilities in fiscal year 1979-80. Estimate that portion of funds recieved from in-state sources.

   a. Total $_____
   b. Estimated portion from in-state sources $_____

H. Independent operations:

Please list funds received from those operations (as defined in HEGIS) which are independent of, or unrelated to the primary mission of the institution in fiscal year 1979-80.

1. Total $_____
2. Estimated portion from in-state sources $_____

I. Other additions and revenues:

Please show the total of all other additions to fund groups not included in one of the categories described above in fiscal year 1979-80 (such as from the sale of plant and facilities, etc.) $_____

III. Expenditures and Other Deductions

The following section requests information concerning fund deductions by the institution for fiscal year 1979-80. This section of the questionnaire is structured such that item G (Non-capital goods and services purchased from businesses) can be derived from total expenditures. The derivation of this item is of crucial importance to the study. It provides part of the basis for computing the economic impact of institutions of higher education on businesses in the state.

A. Total current expenditures:

Please show the total of all expenditures during fiscal 1979-80 by the institution from the Current Fund. NOTE: Items B through G in this section should total to this amount. $_____
Please explain on a separate sheet if there is more than a five percent difference between the total of Items B through G and this amount.

B. Payroll:

Please provide payroll information, showing gross payroll (before taxes and excluding fringes) for in-state and out-of-state employees for fiscal year 1979-80.

	Residing In-State	No.	Residing Out-of-State	No.	
1. Faculty	$_____	_____	$_____	_____	
2. Staff	$_____	_____	$_____	_____	
3. Other	$_____	_____	$_____	_____	
TOTAL	$_____	+	$_____	=	$_____

C. Employee Benefit Payments:

Please provide the amount of employer-paid payroll taxes for fiscal 1980.

FICA $_____
Unemployment Compensation $_____
Other $_____

D. Employer's expenditures for employee retirement plans (not including employer's share of social security) for fiscal year 1979-80.

1. Paid to or deposited at in-state institutions (includes State Employees Retirement System) $_____
2. Paid to or deposited at out-of-state institutions $_____

E. Payments of taxes and fees to governments:

Please provide the amounts of taxes and fees paid to any government in fiscal year 1979-80. Taxes would include sales tax on purchases related to noninstructional activities, any real estate taxes, etc. Fees would consist of payment to a governmental entity of charges for services such as police and fire protection, trash removal, street lighting, sewage, etc. *Do not* include payroll taxes.

	Taxes		Fees		
1. Federal	$_____		$_____		
2. Pennsylvania	$_____		$_____		
3. Other states	$_____		$_____		
4. Local	$_____		$_____		
5. Foreign	$_____		$_____		
TOTAL	$_____	+	$_____	=	$_____

F. Financial aid:

Please list all expenditures from current funds for student financial assistance, including scholarships, fellowships and grants for in-state and out-of-state students for fiscal year 1979-80. Included here would be the expenditure of any funds that were considered revenues or additions when they were received by the institution. Also, please estimate the unduplicated number of students receiving financial aid.

1. In-state recipients No._____ $_____
2. Out-of-state recipients No._____ $_____

G. Non-Capital goods and services purchased from businesses:

Please list the expenditures for non-capital purchases from businesses during fiscal 1979-80. It is most important that you try and derive the in-state and local portions of these amounts using as much factual information as possible. The listing of expenditure objects presented below is intended to group all purchases into a few categories to make the calculations more manageable. Generally, large expenditure categories that involve few vendors and are more easily determined are listed first.

All "local" expenditures must be, for the purpose of this study, made within Pennsylvania. The estimated local expenditure should be derived as follows: If your main campus is located within an SMSA local expenditures would be those made within that SMSA; and if your main campus is not located within an SMSA please indicate those counties containing what you would consider to be your local area of influence and make your estimates based on that area. NOTE: If you are located within an SMSA but feel that its boundaries do not adequately contain your local area, please indicate the additional counties needed to contain your local area and make your estimates based on that area.

Local Area Counties _____

Expenditure Object	Total	Est. Total In-State	Est. Total Local
1. Utilities and heating (include all payments made for electric, gas, oil, coal, water, steam, etc.) *Do not* include any amounts already accounted for in Section III E.	$_____	_____%	_____%
2. Communications (include all payments for telephone, telex, advertising, postage, etc.)	$_____	_____%	_____%
3. Insurance (include all payments of insurance premiums for liability, fire, life, accident, theft, auto, workmen's compensation, medical, malpractice, and all other insurance obtained from private carriers. NOTE: Included here would be all employer-paid insurance premiums made that are part of the employee fringe benefit package with the exception of those already accounted for in Item D above.)	$_____	_____%	_____%
4. Service Contracts (include all payments for service contracts with companies for such services as housekeeping, maintenance, security, food, accountants, etc.)	$_____	_____%	_____%
5. Rental/Lease Contracts (include all payments made under rental/lease contracts for office equipment, copier equipment, vehicles, outside computer services, etc. Also include any office, classroom or housing rental costs.)	$_____	_____%	_____%
6. Printing & Publishing (include all payments made for printing and publishing costs incurred. This would *not* include newspaper advertising or any reproduction costs already accounted for in the copier equipment charges.)	$_____	_____%	_____%
7. Travel & Transportation (include all payments made by the institution for faculty, staff, student or visitor travel expenditures.)	$_____	_____%	_____%
8. Other Services (include all payments made for services rendered by those not on yearly or longer-termed contracts such as repairmen, consultants, etc,)	$_____	_____%	_____%

9. Purchases through state contracts (include total amount of supplies and materials purchased through the Department of General Services.) $_____ _____% _____%
10. Purchases from retailers, distributors and manufacturers (include all payments made from establishments for goods used for any purpose and not included above.) $_____ _____% _____%
11. Other (include any other payments for goods or services purchased and not included in any of the above categories.) $_____ _____% _____%
12. TOTAL NON-CAPITAL GOODS & SERVICES (Total dollar amounts of numbers 1 through 11 of Item G) $_____

H. Capital expenditures:

Please list the actual capital expenditures for new facilities and renewal replacement for fiscal year 1979-80 and estimate that portion of those expenditures for equipment that was made from in-state suppliers.

	Building and Land	Equipment Amount	% In-State	Total
1979-80	$_____	$_____	_____%	$_____

I. Debt service for fiscal year 1979-80:

Please list the amount paid on indebtedness during the fiscal year. Also inlcude any rental payments made to a state or local agency for facilities constructed or obtained using proceeds from the sale of General Obligation or Authority Bonds.

1. Principal $_____
2. Interest $_____
3. Rental payments $_____

J. Other Deductions:

Please list the total of all other deductions or expenditures incurred within the fiscal year and not contained in any category above. $_____

APPENDIX D

Bibliography

The following list of materials is presented to provide information sources which may prove helpful in the conduct of your study. The list is by no means exhaustive of the total information available on the subject.

ECONOMIC IMPACT STUDIES AT PENNSYLVANIA INSTITUTIONS

Caffrey, John and Mobray, George. *The Impact of the University of Pittsburgh on the Local Economy.* Washington, D.C.: Educational Systems Research Group, 1972.

Chawdhry, M. Arshad. *The Economic Impact of California State College on the Local Community.* California, Pennsylvania: California State College, 1979.

Clarke, James J. *An Analysis of the Impact of Villanova University on Radnor Township.* Villanova, Pennsylvania: Villanova University, 1980.

Clay, James P. *The Economic Impact of Slippery Rock State College on the Local Economy 1980-81.* Slippery Rock, Pennsylvania: Slippery Rock State College, 1981.

Fisher, John K. *The Economic Impact of Edinboro State College on Northwestern Pennsylvania 1979-80.* Edinboro, Pennsylvania: Edinboro State College, 1981.

Lewis, Richard A. and Adams, Earl. *The Economic Impact of Allegheny College on the Local Economy.* Meadville, Pennsylvania: Allegheny College, 1974.

Mahon, Jack. *The Economic Impact of the College on the Local Community During Fiscal Year 1978-79.* Newtown, Pennsylvania: Bucks County Community College, 1979.

Miklausen, Anthony and Smith, Ephraim. *The Economic Impact of Shippensburg State College on the Local Community.* Shippensburg, Pennsylvania: Shippensburg State College, 1975.

Palmer, Diane. *The University of Pittsburgh and the Regional Economy 1975-76.* Pittsburgh, Pennsylvania: University of Pittsburgh, 1976.

Selgas, James W., Saussy, John C., and Blocker, Clyde E. *The Impact of College on the Local Economy.* Harrisburg, Pennsylvania: Harrisburg Area Community College, 1973.

ECONOMIC IMPACT STUDIES FROM OTHER STATES

Holst, Stephen D. *The Economic, Social and Cultural Impact of Independent Higher Education on Missouri.* St. Louis, Missouri: Independent Colleges and Universities of Missouri-Research Foundation, 1980.

Linthicum, Dorothy S. *Economic Impacts of Maryland Community Colleges: A Closer Look.* Annapolis, Maryland: Maryland State Board for Community Colleges, 1978.

REPORTS

Caffrey, John and Isaacs, Herbert H. *Estimating the Impact of a College or University on the Local Economy.* Washington, D.C.: American Council on Education, 1971.

Fink, Ira S. *The Economic Impact of Institutions of Higher Education on Local Communities: An Annotated Bibliography. Berkeley, California: California University, 1976.*

Higher Education and the Economy: A Survey of the Impacts on Pennsylvania's Economy of its Colleges and Universities, The Statewide Impacts. Harrisburg, Pennsylvania: Pennsylvania Economy League, Inc., November, 1981.

Higher Education and the Economy: A Survey of the Impacts on Pennsylvania's Economy of its Colleges and Universities, Case Study Reports. Harrisburg, Pennsylvania: Pennsylvania Economy League, Inc., December, 1981.

NOTE: A listing of the case study participants included in this report is presented as the final item in this Appendix.

The College Market/Profile of Students as Consumers — Evanston, Illinois: CASS Student Advertising, Inc., 1980.

GOVERNMENT PUBLICATIONS

Economic Report of the President, January, 1980. Washington, D.C.: U.S. Government Printing Office, 1981.

Pennsylvania Department of Commerce, Bureau of Statistics, Research and Planning. *1980 Pennsylvania Statistical Abstract.* Harrisburg, Pennsylvania: 1980.

U.S. Department of Commerce, Bureau of the Census. *Current Population Reports — Income and Expenses of Students Enrolled in Post-secondary Schools: October 1973.* Washington, D.C.: U.S. Government Printing Office, June, 1975.

U.S. Department of Health, Education and Welfare, National Center for Education Statistics. *Higher Education Finance Manual 1975.* Washington, D.C.: U.S. Government Printing Office, 1975.

U.S. Department of Labor, Bureau of Labor Statistics. *Autumn, 1979 Urban Family Budgets and Comparative Indexes for Selected Urban Areas.* Washington, D.C.: U.S. Government Printing Office, April, 1980.

ECONOMIC IMPACT STUDIES CONDUCTED USING THE FORMAT PRESENTED IN THIS MANUAL

The following is a list of Pennsylvania institutions having successfully completed economic impact studies using the methods contained in this manual. These institution's were the case study participants in the Pennsylvania Higher Education Economic Impact Study. Copies of the individual reports may be obtainable by contacting the respective institutions.

Allegheny College, Meadville, PA
California State College, California, PA
Carnegie-Mellon University, Pittsburgh, PA
Clarion State College, Clarion, PA
Community College of Allegheny County, Pittsburgh, PA
Community College of Philadelphia, Philadelphia, PA
Edinboro State College, Edinboro, PA
Gannon University, Erie, PA
Juniata College, Huntingdon, PA
Lycoming College, Williamsport, PA
Temple University, Philadelphia, PA
Thomas Jefferson University, Philadelphia, PA
University of Pittsburgh, Pittsburgh, PA
University of Scranton, Scranton, PA
Villanova University, Villanova, PA
Washington and Jefferson College, Washington, PA
Williamsport Area Community College, Williamsport, PA